

Challenging of Implementing Moodle as a Platform Application Case of PAAET Kuwait

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Abstract

E-Learning environments may contribute to the teaching and learning process if the integration is done within the framework of proper instruction.

E-learning provides the opportunity for teachers to interact electronically with each other as well as with their students. This interaction can be via e-mail or in chat rooms or on discussion board.

Though recognizing that the world at large will persist to use the online interactions for a variety of kinds that take place between students and teachers.

There are many software systems available that provide online platform systems. This software is in both forms, commercial and open source software (OSS). Moodle (Modular Object-Oriented Dynamic Learning Environment) is one of the systems that have been increasingly gaining worldwide popularity in e-learning system. This paper is focused on implementing Moodle in Public Authority of Applied Education and Training (PAAET). Moodle has been adopted by many people and organizations around the world because it offers a tightly integrated set of tools. Moodle has been developed under the general public license and many of its components were developed without a specific design documentation including its security services.

In this paper researcher present an overview of the feedback of implanting Moodle platform as an E-learning environments. These environments include interactive activities based on three main dimensions from PAAET teachers prospective.

One main advantage of this questionnaire to know the opinion of applying the Moodle and to give more training and supporting for the staff and students. We will also show how effect of communication and technical support on flow of information and knowledge. PAAET have to support teachers with many interesting tools that can be used to improve the teaching– learning process, and the students to reinforce their abilities and knowledge.

Keywords

Moodle Platform, Computer Aided Teaching E-Learning, Teaching Skills

I. Introduction

The e-learning systems became a major part of the education strategic nowadays in world, The E-learning method would provide an excellent chance for electronically interacting for both teachers and students, this interaction could be via conversation board in chat rooms or by e-mail.

These days it’s very hard to think about the learning and teaching process without mentioning the relationship with the information and communication Technology (ICTs), The ICTs now is very important in education, its supported by (LMS) learning Management Systems such as Moodle, The Moodle platform was adopted by University of Aveiro (AV), it provides a various chances

of teaching and learning, These platform is capable to produce a learning platforms, like: feedback, interaction, conversation and networking are some main action of using the learning platforms, also these platform have the ability to use however the capacity is being filled. Furthermore, with these platforms you will able to communicate, organize, create, deliver, collaborate and assign activities.

Using (VLE) virtual learning environments is used especially that we notice that the world will not stop using language and terminology in different ways, so the term of VLE is used to present an on-line interaction between Students and teachers. There are many software systems would provide VLE systems in both forms, open source software (OSS) and commercial.

The design gangs of learning objects (LOs) is valid for the teacher which works in system for modified e-learning. And combine their sequencing the material implementing, The LOs could be either building a new or adopted object systems like standard-compliant source and reprocessed this task.

We will discuss in this paper one of most popular system in worldwide e-learning called Moodle, this system was developed under general public license, and most of its components were developed without a specific design documentation including its security services

In present paper we would analyses the most important difficulties and major conflicts of using Moodle platform at the public Authority for Applied Education and training (Paaet-kuwait). Also it will discuss the results of a study carried out in Paaet all departments through the application of questionnaire of teachers with the objective of characterizing the use of moodle, to consider the barriers of using Moodle platforms and recognizing the reasons of not using this system in the faculties and institutes of the Paaet.

II. Literature Review

This case study research design was used in collecting data. I use questioner to give their opinions and views on the topic under study, identifying the factors affecting using the Moodle platform, in this paper we will discuss the importance of using Moodle platform by teachers’perspective.

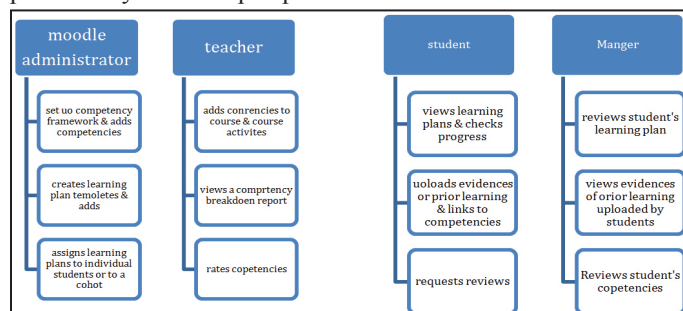


Fig. 1: Moodle Competency-based Assessment Workflow

A. Why Moodle?

1. Firstly, Moodle means (Modular Object-Oriented Dynamic Learning Environment) one of prevalent open source software, Moodle is highly adaptable to different contexts and can be easily accessed from one-off uses on a particular course to help the education requirements of large education authorities ((Whitworth, Andrew & Benson, Angela, 2010) Moodle allows effectively implement modern distance education technologies through integrated advanced services for interactive dialogue and communication between a student and teacher, controlling knowledge at different stage of distance process and achieve complete localization through language packs (The Information System of Distance Learning for People with Impaired Vision on the Basis of Artificial Intelligence Approaches, 2015)
2. First: concerning personal data to the academic qualification (educational level, paaet-member classification, age, use Moodle or no, dealing with moodle)

B. Using Moodle platform in paaet-kuwait

MOODLE platform was launched in paaet-kuwait in 2015, the main purpose of this platform is the goal is to create an interactive learning environment to help in managing the academic content and to follow and evaluate the outcomes of applied education. The goal is to enable paaet teachers and trainers to carry out their tasks and to follow students and their activities and the extent of their academic progress and achieve the goals of their curriculum. Moodle The model is rated to 3 main categories -activities, sources and curriculum. An activity is what the trainee undertakes to interact with the trainer or the rest of his classmates and ultimately it can be evaluated and the student’s grades obtained through them such as duties, tests, assignments and other tasks.

The Sources are a collection of elements that the trainer uses to support the educational course such as lecture files and electronic links that trainees deal with to enrich the course page.

Finally, the curriculum courses where the student can refer to it anytime and anywhere.

C. The study methodology

This study methodology data was collected through a questioner; I implement an expressive strategy and the data was collected, analyzed, organized and interpreted.

The study’s tools: the researcher use a questionnaire as study’s instrument, this questionnaire focuses on identifying the conflicts that faces the teaches and trainers working in paaet-kuwait towards the use of Moodle platform in teaching, training and learning processes. It consists of 17 statements.

III. Methodology

A. Preparation of the questionnaire

After the researcher verified the validity and reliability of the measures, the researcher applied the questionnaire to the study sample. The researcher has building and controlling the implementing of Moodle platform through the following steps to verify the internal and external validity of the measures and questions.

B. Source of scale construction

The researcher relied on building the scale on previous studies and

researches that dealt with obstacles and difficulties in applying distance education programs, which is the theoretical framework for the study.

C. Research Community

The research community consists of the trainers’ faculty staff at the Public Authority for Applied Education and Training institutes in the State of Kuwait, and the number of trainers (928) trainers.

D. Research sample

The answer was from a sample of (78) trainers, which represents approximately 9% of the research community, in an electronic random manner.

Table 1 Demographic data for the sample

Age	#	Diploma	2
25-30	1	Bachelor	49
35-45	27	Master	17
Over 45	50	Ph.D.	10
Total	78	Total	78

E. Formulate the questionnaire

The researcher has formulated a short paragraphs of the goal of questionnaire questions to cover challenging of implementing Moodle software as distance learning online platform. The questionnaire consists of (17) questions distributed on three main Dimensions (Communication Issues, Flow of Knowledge and Technical Issues). The researcher was taken into account diversity when formulated the questions, as well as taking into account when formulating the vocabulary, clarity of the required, simplicity of expression, and the integrity of linguistic formulation.

F. Instructions to answer the questionnaire

The researcher presented instructions and reasons for the questionnaire’s, the questions were formulated in a clear and specific language.

G. Questionnaire Honesty

Apparent honesty is the general appearance of a questionnaire in terms of the type of vocabulary and how it is formulated, and the clarity of these vocabulary, this type of honesty indicates how appropriate the questions are for the purpose for which they were developed. In order to verify the validity of the questionnaire, the validity of the questionnaire was calculated using the apparent honesty method (honesty of the arbitrators), where the researcher presented the questionnaire in its initial form to a group of experts and arbitrators who are specialized in management and computer science, and they were asked to read the questionnaire and give their opinion on it in terms of:

The researcher used clarity the of phrases, terminology, and the suitability of each of the questions with the main Dimensions of the questionnaire, through their deletion, addition, or modification of any question that they feel is not appropriate with the required, and any other notes. Based on the observations and opinions expressed by the arbitrators, the researcher took all the observations made by the arbitrators on the questionnaire, therefore the total number of questionnaire questions has become (17) distributed on (3) main Dimensions, and thus the questionnaire has achieved apparent honesty.

H. Stability of the questionnaire

The researcher applied the electronic questionnaire to a sample of (78) trainers from the Public Authority for Applied Education and Training in the State of Kuwait, and the Cronbach Alpha factor was used. The researcher calculated the alpha factor for each Dimension used in the study in order to test the stability of the measures. The value of the coefficient of a range between (0) and (1). Whenever you approach one, that indicate a high stability, and whenever approach zero it indicates no stability, Table (1) shows the stability coefficients of the study measures.

Table 2: Stability Coefficients for Study Metrics (Done by, researcher)

Alpha Coefficient	# of Questions	Variables as Dimensions
0.45	4	Communication Issues
0.735	4	Flow of Knowledge
0.698	3	Technical Issues
0.816	11	Total

The results shown in Table 2 (indicate that the values of the alpha coefficient for the measures used in the research were all greater than (0.45) which is the minimum acceptable for the alpha coefficient, therefore it can be said that the measures used have internal stability.

I. Questionnaire Design

To ensure the objectivity of the questionnaire, the researcher relied on the Likert triple scale it is a method for measuring behaviors and preferences used in psychological tests that psychologist Rensis Likert developed to use in questionnaires, especially in the field of statistics. The researcher relied on the binary and triple scale to reflect this scale of responses indicating the degree of approval or objection to a formula.

IV. Result

Since the variable expressing the options (Agree, Disagree, I do not know) is an orderly scale and the numbers that enter in the analysis program express the weights which are (True = 0, False = 1, I don't know = 2) So, the researcher calculate the arithmetic mean as follows:

Table 3: The Values of the arithmetic mean of the Likart triple scale (Done by, researcher)

Scale	Arithmetic mean
True	From 0 to 0.67
False	From 0.77 to 1.34
I do not Know	From 1.35 to 2

Table 4: mean and standard deviations of the PAAET staff responses to the phrases that make up the Dimension of Communication Issues (Done by, researcher)

Result	Standard Deviation	Mean	I do not Know	False	True	Metrics	Communication Issues questions
I do not Know	1.302	1.85	35	15	15	Frequency	In case you deal with a moodle program; The program is an easy way to communicate between staff members
			53.8	23.1	23.1	%	
I do not Know	0.896	1.65	57	13	1	Frequency	Is it possible to consider that the moodle program allows good communication between members of the training staff or faculty members?
			80.2	18.3	1.4	%	
I do not Know	1.286	1.94	39	19	13	Frequency	In your opinion, has the moodleProgram provided an effective environment for communication between the staff and the trainees?
			54.9	26.8	18.3	%	
I do not Know	0.380	1.81	38	14	20	Frequency	Through the use of the moodle program, it is possible to overcome Sensations and feelings that can be felt in the lecture hall
			52.8	19.4	27.8	%	
I do not Know	0.90045	1.8704	Result of Communication Issues				

Table 5: Mean and standard deviations of the PAAET staff responses to the phrases that make up the Dimension of Communication Issues (Done by, researcher)

Result	Standard Deviation	Mean	I do not Know	False	True	Metrics	Flow of Knowledge questions
I do not Know	1.229	1.52	5	53	13	Frequency	In your opinion, the flow of information in a moodle program
			7.0	74.6	18.3	%	
I do not Know	1.427	1.82	40	9	23	Frequency	The moodle program provides good use of multimedia
			55.6	12.5	31.9	%	
I do not Know	1.424	1.97	43	9	20	Frequency	Moodle program provides adjustable tables
			59.8	12.5	27.8	%	
I do not Know	1.175	1.76	35	32	11	Frequency	Moodle program can be reliable to measure the perception and understanding of the trainees
			44.9	41.0	14.1	%	
I do not Know	0.99836	2.0	Result of Flow of Knowledge				

Table 6: Mean and standard deviations of the PAAET staff responses to the phrases that make up the Dimension of Communication Issues(Done by, researcher)

Result	Standard Deviation	Mean	I do not Know	False	True	Metrics	Technical Issues questions
I do not Know	1.413	1.79	35	17	19	Frequency	Can the information in the moodle program be considered easy, clear, and concise?
			49.3	23.9	26.8	%	
I do not Know	1.272	1.80	32	28	11	Frequency	It is possible to consider that the moodle program is a clear way to measure the level of the trainees
			45	39.4	15.5	%	
I do not Know	1.332	2.0	41	18	13	Frequency	The moodle program provides an easy way to correct the trainees Exams
			56.9	25	18.1	%	
I do not Know	1.07824	1.899	Result of Technical Issues				

The correlations between the main Dimensions of the research

Based on table (7) showed the correlations between the main Dimensions of the research (Communication Issues, Flow of Knowledge and Technical Issues)

There are statistically significant at the level of 0.01 in all the relations above 0.5 which means a strong correlation

Table 7: Showed the correlations between the main Dimensions of the research

Technical Issues	Flow of Knowledge	Communication Issues	Dimension
0.765**	1	0.589**	Flow of Knowledge
1	0.765**	0.663**	Technical Issues
0.663**	0.589**	1	Communication Issues

** . Correlation is significant at the 0.01 level (2-tailed).

After testing the correlation coefficients between the main research dimensions, the researcher tested the regression using F-test, R2, and T-test and the previous table shows these results.

Table 8: Testing the correlation coefficients between the main research dimensions

model	T-test	R ²	F -test	Flow of Knowledge correlation	
The Impact of Flow=0.786+Comm(0.647)	6.095**	0.347**	37.144**	0.589**	Communication Issues
The Impact of Flow=0.672+Tech(0.708)	4.350**	0.585**	100.086**	0.765**	Technical Issues

** . Correlation is significant at the 0.01 level (2-tailed).

There is a direct relationship statistically significant at the level of 0.01 on the existence of a correlation between the flow of knowledge and information and communication with a factor = 0.589, which is statistically indicative of the existence of a direct relationship. On the

other hand, there is a direct relationship statistically significant at the level of 0.01 on the existence of a correlation between the flow of knowledge and Technical Issues with a factor = 0.765, which is statistically indicative of the existence of a direct relationship. From the foregoing we accept the null hypotheses related to main dimensions of the research, and we reject the alternative assumptions as follows therefore we would not reject H0 at a 1% level.

V. Discussion

By understanding the previous results, The Impact of Flow of knowledge =0.786+Comm. (0.647), it becomes clear to us that we can predict the relationship and impact of communication on flow of knowledge and information between trainers’ faculty among themselves and between trainers’ faculty and trainees or learners, which have showed from the model for every change of 0.647 units in communication increases the degree of impact on the flow of information by one unit.

By understanding the previous results The Impact of Flow of knowledge=0.672+Tech.(0.708), it becomes clear to us that we can predict the relationship and impact of solving technical issues on flow of knowledge and information between trainers’ faculty among themselves and between trainers’ faculty and trainees or learners, which have showed from the model for every change of 0.708 units in solving technical issues increases the degree of impact on the flow of knowledge and information by one unit.

VI. Recommendations

In light of the findings of the research, the researcher recommends the following:

Attention to awareness the trainers and clarifying the importance of learning the applications of distance learning systems and platforms in light of the existence of crises with which it is difficult to communicate directly with the trainee or the student.

Diversify the teaching aids to increase the ways of communicate with the trainees and students.

Focus on developing the skills of trainers and training them on methods and applications programs related to distance education.

Concentrating on advanced electronic platforms for communication, due to the importance of the communication issues and its impact on knowledge and information achievement.

Dear all,
Special for the Public Authority for Applied Education and Training, We are in the process of preparing scientific research dealing with the current situation and implementation of the * Moodle* program, from the viewpoint of faculty members and training. Your kind responses to the attached questionnaire will be the reason for the success of that study. So, kindly could you contribute with us and answer the questions in a

transparent manner; It will be used for scientific research purposes only
 Thanks for your kind time

- Focusing on advanced electronic platforms which have multi techniques and options for the trainers, such as providing visual presentations, scheduling, writing, testing ... etc., due to the importance of the technical issues and its impact on educational and information achievement.
- Motivated to diversifying electronic platforms in the training and educational process.

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1	General	The educational level
2	General	Works for the Public Authority for Applied Education and Training
3	General	Age
4	General	Have you ever dealt with a moodle program?
5	Communication Issues	In case you deal with a moodle program; The program is an easy way to communicate between staff members?
8	Communication Issues	Is it possible to consider that the moodle program allows good communication between members of the training staff or faculty members?
9	Communication Issues	In your opinion, has the moodle Program provided an effective environment for communication between the staff and the trainees?
14	Communication Issues	Through the use of the moodle program, it is possible to overcome Sensations and feelings that can be felt in the lecture hall?
6	Flow of Knowledge	In your opinion, what you think of the flow of information in a moodle program?
11	Flow of Knowledge	The moodle program provides good use of multimedia?

13	Flow of Knowledge	Moodle program provides adjustable tables?
16	Flow of Knowledge	Moodle program can be reliable to measure the perception and understanding of the trainees
7	Technical Issues	Can the information in the moodle program be considered easy, clear, and concise?
9	Technical Issues	In your opinion, has the moodle Program provided an effective environment for communication between the staff and the trainees?
10	Technical Issues	It is possible to consider that the moodle program is a clear way to measure the level of the trainees
12	Technical Issues	The moodle program provides an easy way to correct the trainees Exams
15	Recommendation	In your opinion, which of the following reasons is considered the biggest obstacle to the application of the moodle Program in the institutes and colleges of applied education?
17	Recommendation	It is recommended that the moodle program be applied in the colleges and institutions of the Public Authority for Applied Education and Training

Authors Profile

Amani Mobarak ALMadahkah received her B.S. degree in Computer Science from Kuwait University, in 1995 she worked as programmer in Computer department in council of ministers in kuwait, she was part of many projects specialized in decision support by computing systems. In 1999, She worked in teaching in Ministry of education as computer teacher, In 2003 she joined the public authority of education and training in Higher Institute of Management Studies as a-member of computer department trainer she respectively participated in training courses for either teachers or students. She was involved in preparation of curriculum books and notes. She has number of researches interests in computer science.



Humoud Alqattan received his B.Sc. degree in Electrical Engineering from Kuwait University, in 1998, the M.S. degree in MBAMAastricht Business School in 2005, the Ph.D. degree from Brunel University- School of information System, Computing and Mathematics, in 2013, and he is Project Management Professional (PMP) in 2014. He was a maintenance engineer in petrochemical industrial company 1998-2001. He is a trainer, lecturer, with Department of Electrical Power, High Institute of Energy, PAAET, Kuwait since 2001. He was the head of student affairs department 2004-2010. His research interests include electronics and electrical, business strategy, learning and teaching. At present, He is the admission and registration training director in PAAET, Kuwait.