The Impact of Online Communications for Developing Students Learning Skills

Nahla Khatib
Arab Open University, Jordan
Jordan, n_katib@aou.edu.jo

Abstract:

This study examined the impact of online communication implemented in teacher education program at Arab Open University (AOU) towards developing students learning skills by using of the Moodle open source learning management system (LMS). The LMS Moodle was adopted by the university as a tool for completing courses requirements on line along with face to face instruction to implement blended learning work place. The study addressed 3 questions(1) To what extent did preservice teachers integrate LMS Moodle into their learning 2) What elements of LMS Moodle were used most frequently by students? (3)What were the difficulties and obstacles faced by students in using the LMS Moodle? A survey design and semi structured personal interviews finding indicated that preservice teachers had integrated LMS activities and resources in their learning practices, they claimed that LMS Moodle was useful for their course work, they indicated that LMS increased the interactions between students and their tutors as well as among students themselves. The assignments posting feature was reported as the most frequently used tool. Some difficulties were revealed among students using LMS Moodle mainly lack of web skills, and also lack of confidence in technology concepts and operations.

Key words: Blended learning, learning management system, Moodle, teacher education.

INTRODUCTION

Internet -based technology creates a variety of ways to deliver instruction and provide electronic resources for teaching and learning that can provide flexibility and convenience. [12] , students can study independently online or take an instructor-led online course, that combines the benefits of self study with traditional classroom-based learning which is called blended learning[10]&[5]. For working adults occupying an increasingly large percentage of our university population, opportunities are being made to better meet their needs, interests, and working schedules through online enhanced instruction. The vision that has emerged at the university recognizes that technology can benefit learning when it can:

- Allow students to take a more active role in their learning,
- Allow tutors to express the content of courses in more than one format,
- reach various learning styles,
- Broaden the array of resources brought to classrooms and the students workstations,
- Increase opportunities for interactions between teachers and students and among students. [1],[2]&[5].

Achieving these goals will move our university toward becoming fully integrated Open Learning System, utilizing synchronous and asynchronous learning networks in which students, faculty, and staff are linked by online communications, online processing, electronic databases, library services, multimedia on demand, and other information technologies, without regard to physical location.[6]

AOU adopted Moodle as an open-source course management system (LMS), mainly to design a well formed learning management system which facilitates the interaction among all parties involved, to supplement traditional face -to -face instruction, and to increase learning opportunities in coordinated network enhanced classroom to support blended learning.[11]

LEARNING MANAGEMENT SYSTEM (LMS) EXPERIENCE AT AOU

The LMS Moodle used at AOU integrates several activity modules, including assignments, chat room, and news forum and quizzes module. In addition, LMS Moodle supports wide range of resources that allow users to add any kind of digital content in the courses on line like composing text pages, or web pages or link to files or web pages. It also gives faculty course management tools for grading, tracking student integration, and monitoring class progress.

ISSN 2278-3083

International Journal of Science and Applied Information Technology (IJSAIT), Vol.2 , No.2, Pages : 50-54 (2013)
Special Issue of ICET4E 2013 - Held during 11-12 March, 2013 in Hotel Crowne Plaza, Dubai

Student too can place assignments and other materials for courses in which they are enrolled, ask question or reply to questions raised by tutor using news forum, or send and receive e-mails or messages from tutor or fellow students, they can access their course materials using a pass word from any computer connected to the campus Internet or any network at home or work. Such features can facilitate interaction between tutors and students, which are available only to students and instructor of the course, thus protecting the intellectual property of the instructor, the privacy of the student, and the course content from external parties. [2]

Purpose of the Study and procedure

Since little research has been done in the area that focuses on using a specific software package such as open source learning management system LMS Moodle to enhance learning, this study was carried to find out the extent of engagement of AOU students at the faculty of educational studies towards using Learning Management system LMS Moodle in order to determine its feasibility as a tool for delivering resources in an Internet-based instruction and to address the challenges faced in implementing the open system. The study addressed three main sections: (1) To what extent did preservice teachers integrate LMS Moodle into their learning 2) What elements of LMS Moodle were used frequently by students? (3)What were the difficulties and obstacles faced by students in using the LMS Moodle? A pilot study was carried on a sample of students (n=36) enrolled in self learning skills course (GR101), taught by the researcher, which is an introductory course at the university, and had no prerequisites. This particular course was selected in the study due to the expected variation in students' skills and interest areas, and the suitability for integration of LMS Moodle tools. Freshman students comprised 88% of the sample. For the majority of students, this was the first time they had used LMS Moodle or any courseware tool, the method of instruction in this course could be described as a combination of traditional face-to-face instruction complemented by online interactive communication. Traditional methods included lectures, hands-on activities, and class room discussions. Students were required to communicate on line through LMS Moodle by using the bulletin boards feature of the system to view assignments and discussion questions posted by the instructor, and were required to send electronic versions of written assignments to the instructor through the of

LMS Moodle to be graded and sent back to student with the necessary feedback, besides taking quizzes and final exams which could be online. There were a variety of other functions such as news forum, chat sessions, and an electronic version of the syllabus and lecture notes available through the system for optional use.

A survey questionnaire as a study tool was developed after revising educational literature and previous studies [3&4&9] and was distributed among students at the end of semester. The same survey questionnaire was also distributed among (250) students enrolled in general science and methods of teaching science   courses for preservice teachers taught by the researcher, these courses are obligatory for all students enrolled in the teacher education program at AOU in their third and fourth year, the method of instruction in these courses was a combination of traditional face-to-face teaching complemented by on line interactive activities using LMS Moodle. Traditional methods included one weekly tutorial session where students meet with instructor face to face for group discussions, and hands-on activities, in addition Students were required to use the bulletin board feature of the system to view assignments and discussion questions posted by the instructor, and were required to send electronic versions of their assignments to the instructor through the LMS to be graded and sent back to them and have feed back of their work as ongoing assessments besides the quizzes and final exams which could be online. Other functions such as news forum, chat sessions, send/receive emails, and an electronic version of the syllabus and course notes or files related to the courses were also available. The researcher also carried personal interviews with several students, related to the objective of the study to the find out how did they evaluate the implementation of the LMS Moodle in their learning. The data were analyzed and the descriptive statistics were calculated. The results are summarized as follows:

RESULTS AND FINDINGS

During the first week of the semester, students were gradually introduced by the instructor (tutor) to the activities and resources in LMS Moodle related to the corresponding course materials to assure that they would be successfully used along with the scheduled face-to-face weekly meetings, students work could be uploaded and submitted and scored by the instructor as well as using other functions availing through the system, students were surveyed at the end of the semester. The survey instrument incorporated dichotomous and open-ended questions regarding student experiences with LMS Moodle; whether they used the system effectively, what elements of LMS Moodle they elected to use most frequent, what difficulties they might have encountered, and their overall opinions regarding LMS Moodle. The frequencies and percentages for survey questions regarding use of LMS Moodle by students in (GR101course) are displayed in Table 1below:

Table 1
Survey Items Regarding Use of LMS by
Students in (GR101course)

Question	Response	F	%
It was my first time using (LMS)	Yes	24	67
	No	12	34
I found (LMS) useful for my course work	Yes	29	81
	No	7	19
I used(LMS) to communicate with my tutor	Yes	17	47
	No	19	53
I used(LMS) to communicate with my classmates	Yes	9	25
	No	27	75
I used (LMS) most frequently in the following items	-Revise study calendar /lecture notes	26	72
	-Send/Receive E-mails	11	31
	-News forum/Chat	9	25
	-Posting assignments	31	86
	-online quizzes and tests	29	81
I had problems using the following items	-Logging on to (LMS)	17	47
	-Submitting assignments	12	33
	-Accessing the calendar/lecture notes	9	25
	-Posting/replying on forum	6	17
	-Sending/receiving e-mail	12	33
	-Did not have any problems	16	44

The results revealed that although 67%of the students used the LMS Moodle system for the first time, 81% of them claimed that it was useful for their course work, they used the system to communicate with their tutor more than for communication with fellow students, where47%of them used the system to communicate with their tutor while only 25%of them used (as shown in Fig 1) it to communicate with fellow students.
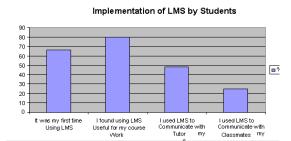

Fig 1
Implementation of LMS by students in
(GR101course)

The results also showed that the assignments posting feature was reported as the most frequently used tool. The online quizzes and tests, generated by the instructor was the second most commonly used by the students. Revising the study calendar, which had important dates relevant to the course, and lecture notes were the third most commonly used by the students, the forum function which was regularly used by the instructor to post questions relevant to the course and solicit responses and discussion from the students as well as sending and receiving e-mails were used less frequent (as shown in Fig 2).
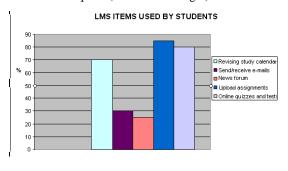

Fig 2
Items of LMS Used by
Students in (GR101course)

The frequencies and percentages for survey questions regarding the implementation of LMS Moodle and the use of LMS Moodle by students in general science and methods of science courses are displayed in Table 2:

Table 2
Survey Items Regarding Uses of LMS by Students in General Science and Science Methods courses

Question	Response	F	%
I have experience using (LMS)	Yes	235	94
	No	15	6
I found (LMS) useful for my course work	Yes	240	96
	No	10	4
I used(LMS) to communicate with my tutor	Yes	150	62
	No	100	38
I used(LMS) to communicate with my classmates	Yes	145	58
	No	105	42
I used (LMS) most frequently in the following items	-Study calendar/course notes	165	66
	-Send/Receive e-mails	105	42
	- online quizzes and tests	90	36
	-Posting assignments	235	94
	- News forum/Chat	215	86
I had problems using the following items	-Logging on to (LMS)	20	8
	-Submitting assignments	30	12
	-accessing calendar/lecture notes	40	16
	-Posting/replying on forum	35	14
	-Sending/receiving e-mail	40	16
	-Did not have any problems	215	86

The results showed that students in these two courses were actively involved in using the LMS Moodle in their course work, they developed learning skills during their course of studies, 94 %of them had experience in using the LMS Moodle from previous courses, and 96% of them found LMS Moodle useful for their course work, in addition to that they indicated that they used the LMS Moodle to communicate with their fellow students as well as with their tutor (as shown in Fig 3).
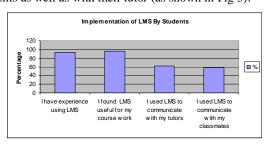

Fig 3
Implementation of LMS by Students in General Science and Methods of Science courses

When searching for the items of LMS Moodle used frequently by students in general science and methods of science courses; the assignments uploading feature was reported as the most frequently used item (94%) compared to(86%) with (GR101) students sample. The news forum function which was regularly used by the instructor to post questions relevant to the course and solicit responses and discussion from the students was the second most commonly used by the students. Revising the study calendar, which had important dates relevant to the course, and lecture notes were the third most commonly used by the students, The online quizzes and tests, generated by the instructor as well as sending and receiving e-mails were used less frequent(as shown in Fig 4).
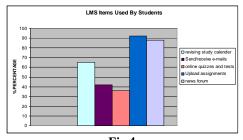

Fig 4
Items of LMS Used by Students in General Science and Methods of Science courses

When students in (GR101) course were asked if they encountered problems while using the system; Most of them struggled with logging to the system, uploading assignments, using the calendar, forum features, or checking for new postings on news forum. LMS Moodle was perceived to be difficult and/or challenging, while 44% of them adjusted to the system with little problems and used it effectively. The researcher also found in answers of students in (GR101) course who were interviewed, some obstacles that were focused on three issues: (implementation issues, technical issues and technological issues) mainly issues related to difficulties in logging to the system, lack of experience with the system features and applications, and lack of computers in the classrooms or at their homes with high speed internet connection. Students affirmed that the responsibility of tutors and the technology team at the university was the key issue to help them develop basic technology competences.

When students in general science and methods of science courses were asked if they

encountered problems while using the system; submitting assignments was the most burdensome task. Some specific examples of students complains were," Seemed difficult at some times to post assignments", or "Having to write assignments somewhere else and then load them up," "Posting/replying was kind of confusing," Not knowing when I had to check it for something new".   However, 86 % of them adjusted to the system with little problems and used it effectively. Some difficulties were revealed, which were focused mainly on their lack of web skills ,to log in the system, and lack of confidence in technology operations and concepts.Finaly, the work by technology needs time and effort from students, and that put them under pressure, so they lack time to follow other activities in their daily life and work and family responsibilities.

CONCLUSIONS AND RECOMMENDATIONS

In conclusion, this study revealed that students had developed learning skills by integrating LMS Moodle in their learning when they took several courses practicing the integration of the system activities and resources during their studies, they claimed that of LMS Moodle was a useful tool for an on line instruction, they believed that student-tutor and student -students communications were facilitated and that it had improved their chances to succeed in their studies.   Most students were comfortable with the system and did not encounter serious technical problems. Some difficulties were revealed among students using LMS Moodle; they needed more time practicing in order to develop sufficient confidence. Further research needs to be conducted to determine whether LMS Moodle is being accepted by students and/or whether using it is better than traditional instructional methods. Finally, it is recommended that the study be repeated with a larger sample size and with in-depth interviews with the participants possibly conducted.

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