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Graduate Student's Opinions on Learning Management Systems: the Moodle LMS – a Case Study of EMU

Emeka Joshua Chukwuemeka

Graduate Assistant (International Office), Department of Information and Communication Technology in Education, Eastern Mediterranean University, Gazimağusa, Turkey

Petovie Edori

Graduate Assistant, Department of Information and Communication Technology in Education, Eastern Mediterranean University, Gazimağusa, Turkey

Oluwatobi Bakare

M.Sc. Student, Department of Information and Communication Technology in Education, Eastern Mediterranean University, Gazimağusa, Turkey

Abstract:

Over the years, e-learning is gradually integrated with the traditional classroom learning style and more ways to improve on this is being produced. Amongst which is being majorly today is the learning management system (LMS). One significant problem is that students do not effectively use the functionalities which are available by this learning management systems or may rather concentrate on some particular component of the LMS, for some various reasons which this research aims to identify. The aim of this study is to investigate Computer and Instructional Technology Teacher Education (CITE) graduate students' views and opinions related to LMS using Moodle. The research was carried out in the CITE department faculty of education, Eastern Mediterranean University (EMU) Northern Cyprus. This research is a case study with mixed method approach. 30 master students participated, both close ended questionnaire and a focus group interview was conducted. The data analyzed revealed that students check Moodle regularly for updates on course contents, announcements, discussion. Moodle enhances learning and also students are generally satisfied with Moodle as a way to manage their learning process, thus more effort needs to be made on the instructors in engaging all the components of the Moodle system for effective learning and usage.

Keywords: E-learning, Moodle, learning management system, Students views and opinions

1. Introduction

The need for knowledge has increased rapidly making the traditional systems of learning insufficient to entertain these needs – people are seeking for how to learn quicker, learn from a distance, learn at low cost, learn effectively from the educational to business and all sphere of life where knowledge is required. The method through which teaching and learning is carried out today is changing and moving towards involving technology. The traditional classroom style is now been integrated with e-learning. In other to find new ways to supply these needs, learning has turned to the face of technology as the answer to most of its problem now in the 21st century. By adopting these technologies such as the internet, terms like e-learning, web based learning (distance education, e-education) and e-learning system started emerging, in other to enhance the traditional system of learning. E-learning is important because it improves the quality of learning experience and extends to the reach of both instructors and students. Conannon, Flynn and Campbell (2005) note that technology is driven into educational process because of the change in student demography, innovations of new technology and also changes in the way education is given. E-learning generally refers to learning through the internet and on the other hand, e-learning systems refers to the using of web enabled tools (internet, web browsers, LMS) for learning and interaction with other systems (Hassanzadeh, Kanaani, and Elahi, 2012). E-learning has the capacity to accommodate different learning styles (Ituma, 2011). E-learning offers new ways of producing, distributing and consuming academic materials (Concannon et al., 2005). According to Liaw, Huang and Chen (2007), users' attitude towards e-learning makes a difference in the success of an e-learning environment. Paechter, Maier, and Macher, (2010) suggests 5 factors that affect student experiences which are course design, interaction between student and instructor, collaborative learning, individual learning, and course outcome. Moodle which stands for Modular Object-Oriented Dynamic Learning Environment is an open source course management system, initially founded by Martin Dougiamas.

Moodle enables educators to design online courses in which the students can access anytime like a virtual classroom. It has the method and practice of teaching advantages which emphasizes the construction of knowledge interactivity (Kotzer and Elran, 2012).

Moodle as a Learning Management System (LMS) has been adopted by the Faculty of Education in Eastern Mediterranean University (EMU), Turkish Republic of Northern Cyprus (TRNC) and it has greatly aided teachers and students in providing different opportunities for exploring new ways of getting and delivering instructions through its capabilities which include discussions, feedback, and forums. This platform integrates different modules which allow creation, organization, delivery, communication, assessment and collaborative work (Costa, Alvelos, and Teixeira, 2012). It is important to know the outcome of any learning method used to ensure that it brings positive results. Psaromiligkos, Spyridakos, and Retalis (2012) said that, evaluation is critical and it is needed in any e-learning course so that it can be further redesigned and improved as necessary. Based on the findings of Holbl, Welzer, Nemeč, Sevcnikar, (2011) Moodle improves seriousness and awareness, it improves better communication between instructors and students and collaboration among peers with the use of discussion forums and messaging system. Also, Sadanand and Kumbhar, (2012) found out that most students have a positive attitude towards e-learning, discussions on the blog has helped students build up their confidence in putting forth their views on a topic.

Moodle is being introduced to Computer and Instructional Technology Teacher Education (CITE) students but no feedback is gotten from them if it is the best way to carry out or manage their learning process. This study will address; what are CITE graduate students' general perception about using Moodle? In order to reach the aim of the question, the following sub question will be considered.

- What the satisfying and the less satisfying Moodle components?
- How has using Moodle enhanced their learning?
- What are the students' experiences in using Moodle?

The research would be beneficial to instructors, faculty and the university to help them utilize Moodle effectively to enable students' gets maximum satisfaction. Also, it can be beneficial to the designers of Moodle to help them know the component of Moodle that could be improved. Through this means, this paper intends to contribute to increase students' motivation in maximizing the opportunities e-learning systems provides by using the facts revealed from this research. In this regard, the aim of this research is to examine CITE graduate students' views and opinions related to e-learning systems using the Moodle LMS as the focal point.

2. Methodology

2.1. Research Design

The study was a qualitative method research based on a case study that involved CITE graduate students at the faculty of education TRNC. This method was chosen because it best fits our research problem. A case study is an empirical inquiry that investigates a contemporary phenomenon within its real life context, especially when the boundaries between phenomenon and context are not clearly evident (Yin, 1994). According to Yin (2003) case studies are used when "how" or "why" questions are being posed, when the investigator has little control over events, and when the focus is on a contemporary phenomenon within some real-life context. Case studies are designed to bring out the details from the viewpoint of the participants by using multiple sources of data (Tellis, 1997). Additionally, details on the quantitative and qualitative methods carried out will be discussed.

2.2. Population and Sampling

The research took place at Eastern Mediterranean University, faculty of education using the department of computer and instructional technology (CITE) as the main focus. 30 master students were involved in this research. It was a purposive sampling and we were able to reach all students. Purposive sampling is the selection of the most productive sample to answer the research questions. Neuman (2003) said that researchers often use their judgment to select a sample that they believe based on prior information will provide the data needed. Students from this department were chosen because Moodle is the main system used by the teachers to conduct and manage their courses, and the students sign up to Moodle to be a part of the course.

2.3. Data Collection Instrumentation

A Questionnaire (see Appendix A), and an interview guide (see Appendix B) were the instruments used to collect data. Both instruments were pilot tested before applying. The questionnaire was revised after pilot testing, which was then used to conduct the research.

Closed ended questionnaire was given to the students and it contained 5 sections with 37 questions totally. Section A asked about students' demography data; where students picked the right response relating to them. Section B asked about Moodle basic information; it was a Yes/No response. Section C asked about Moodle components; it was a 4 point Likert scale ranging from very valuable (4), valuable (3), not valuable (2) to never used it (1). Section D and E asked about Course experience and overall experience respectively; both were a 5 point Likert scale ranging from strongly agree (5), agree (4), neutral (3), disagree (2) to strongly disagree (1).

An interview session was also carried out to help better understand the data. The interview questions were designed to answer our research questions and also to match the questionnaires given. The interview had 9 main questions with 3 questions containing prompts.

2.4. Data collection Procedure

The students were approached mostly during class periods and they took their time to fill the questionnaire immediately it was given to them and they all personally returned it after completion. Two class periods were used because all the students could not be found in one class. After a week, the interview session was conducted as a focus group type where the questions were raised and students wrote down their thoughts and opinions. 3 groups were interviewed, discussions and comments were made about some questions due to its nature and it was all put to note.

2.5. Data Analysis

With the questionnaires, the data were analyzed using statistical package software which is SPSS Statistics 20.0. SPSS is a Windows based program that can be used to perform data entry and analysis and to create tables and graphs. We used this software to process raw numbers from individual questionnaire results into totals and percentages in order to get our findings. Also for the interview we used the content analysis to analyze the data received.

2.6. Validity and Reliability

Validity enables to know that we are measuring what we want to measure. Validity was confirmed by

- Consulting expert opinions on the questions used in the questionnaire' and the interviews.
- Pilot testing on both data instrument used, made a few corrections on the questionnaire before applying it.
- Cross checking the questions to see if it appears to be measuring the construct.

To check for reliability that is the consistency or repeatability of the measure, we used different data collection methods. There are various ways to check for reliabilities but we used triangulation – This refers to the use of more than one approach to investigate the research question in order to enhance confidence in ensuing findings. By using questionnaire and also backing it up with a focus group interview we were able to achieved reliability.

3. Findings

The findings gotten were designed to answer our research question which is: what are CITE graduate student's general perception about using Moodle?

These quantitative data were gotten from the questionnaire filled by the students and the data are represented in percentages which total each item to a 100%.

	Very valuable	Valuable	Not Valuable	Never used it	Missing value
Course content	37.0	48.1	.	11.1	3.7
Announcements	44.4	44.4	7.4	.	3.7
Assignments	33.3	51.9	11.1	.	3.7
Calendar	18.5	48.1	11.1	18.5	3.7
Chat	14.8	25.9	29.6	25.9	3.7
Discussions	18.5	59.3	14.8	7.4	.
File download	37.0	48.1	14.8	.	.
Forum	14.8	48.1	22.2	14.8	.
Grading module	14.8	55.6	14.8	14.8	.
Mail	33.3	37.0	3.7	25.9	.
Quiz module	25.9	37.0	11.1	25.9	.
Resources	33.3	51.1	3.7	11.1	.

Table 1: The components of Moodle students find satisfying and less satisfying are shown in table 1 above

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Using Moodle improves the quality of the work I do.	37.0	33.3	22.2	.	7.4
Using Moodle gives me greater control over my learning	14.8	51.9	25.9	3.7	3.7
Moodle enables me to accomplish my tasks more quickly.	3.7	51.9	33.3	3.7	7.4
Using Moodle enhances improves my academic performance.	14.8	37.0	44.4	.	3.7
Using Moodle makes it easier for me to do my work.	18.5	33.3	37.0	3.7	3.7
Overall, I find Moodle useful in my education.	18.5	51.9	22.2	3.7	3.7

Table 2: Students' view on how Moodle enhances their learning are shown in table 2 above

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Missing Value
I am comfortable using technology and taking courses online.	44.4	44.4	11.1	.	.	.
I feel comfortable using Moodle	25.9	55.6	14.8	.	.	3.7
The process of using the Moodle is clear and understandable.	29.6	48.1	11.1	11.1	.	.
The organization and sequence of the course was easy to navigate.	7.4	66.7	14.8	11.1	.	.
I did not have any difficulty completing class assignments in Moodle.	25.9	51.9	14.8	7.4	.	.
Moodle improved communication with my classmates.	7.4	33.3	33.3	18.5	7.4	.
Moodle improved communication with my instructor.	11.1	51.9	22.2	7.4	7.4	.
Moodle promoted a sense of community within the course.	14.8	51.9	18.5	11.1	3.7	.
Interacting in Moodle is often frustrating.	3.7	22.2	51.9	22.1	.	.
Moodle is rigid and inflexible to interact with.	7.4	18.5	48.1	22.2	.	3.7
I find it takes a lot of effort to become skilful at using Moodle.	7.4	29.6	22.2	29.6	11.1	.
Overall, I would like to see Moodle used in all of my courses.	29.6	51.9	11.1	.	7.4	.

Table 3: Students' view on Moodle experiences are shown in table 3 above

77.8 % of students agreed Moodle has added to their learning while 22.2 % disagreed. 92.6% of the students agreed that the instructors seemed comfortable using Moodle while 7.4% of the students disagreed that not all instructors seemed comfortable with Moodle. Also based on the amount of time spent using Moodle, 25.9% use it daily, 59.3% use it weekly, 3.7% use it fortnightly, 7.4% use it monthly and 3.7% don't use it.

After analyzing all the data collected from the interview, it was found that majority of the students use Moodle weekly for about 1-2hrs, although 2 students said that they use Moodle 1hr per day. The students said that they think Moodle is important, good for sharing materials, helpful in learning and also important for managing all courses.

When asked about the components of Moodle, all the students agreed that the announcement, course content, discussion were useful and satisfying. Other satisfying components include calendar, chat, mail, file download, assignment and grading system. Although, one student said the chat was not useful and another said the mail was not useful either, another student said that more resources should be put in Moodle.

Based on the academic performance, students said that Moodle enhances learning through practice, it is easy to assess, course contents are always available, all the files are in one place ready for download and Moodle helps save time. On the other hand, students also said that Moodle did not affect academic performance and another student said it does not matter with Moodle or not.

When asked if the student prefer using Moodle; they all said yes for different reasons. Some said because you can view course content anywhere, with Moodle you can discuss with classmates. One student said because Moodle gives students the ability to login and share information to all other students. Another student said Moodle needs improvement, he said "Moodle should send notifications to student's phones so that the student would know exactly when new information is posted and can view it immediately".

4. Discussion

Looking at the result of the research, you can see that all the hypotheses are proved true from table one to table three. You can see the opinions of the master's student who uses Moodle. The results of the findings actually show that the participation of students on Moodle and their interactive usage on Moodle have a high impact on the student's achievements in the integrated learning environment.

According Table 1 - The components of Moodle students find satisfying and less satisfying section of the questionnaire filled it was gathered that all the 12 components considered in this study are satisfying but differs in ratio. The satisfying components listing in descending order are Announcements, Assignments, Course content, File download, Resources, Discussion, Grading module, Mail, Calendar, Forum, Quiz module, and Chat. The less satisfying components listing in ascending order are Chat, Quiz module, Forum, Mail, Grading module, Discussion, Resources, File download, Assignments, Course content and Announcement. The table also illustrates the components of Moodle the student are contented with and the ones they are not contented with. Majority of the students enjoy using the announcement which enables them to get current updates about the course group which are posted by the instructor on Moodle. Also students are able to download assignments, course contents and other resources which are uploaded on Moodle by the instructor for the course; this actually made the percentage in the file download increase and to be enlisted among the satisfying components.

As shown in Table 2, which focuses on the students views on how the Moodle has enhance their learning, it was shown that using Moodle has helped the student to have greater control over the learning this can be applied to when the students uses the components on the Moodle freely e.g. the textbook used in the course, the lecture note (you do not need to buy from a show).

Additionally, the Moodle experiences from Table 3, the opinion of the students show that the organization and the sequence of the course on Moodle was easy to navigate which makes the student have an easy access to detailed information on the Moodle, so because of this, it enables the students to be very comfortable using technology and taking course online using Moodle and also make the use of Moodle comfortable and clear to understand.

5. Conclusion and Implications

In conclusion, our main objective of this study tends to know, the different views of CITE graduate students about the use of Moodle as regards the usage for different academic purposes through the understanding of how it affects their performances, has produced and ascertain the following findings that

- Students actually find it useful and needy to use the Moodle.
- Majority of the students agreed that Moodle added to their learning probably because of the flexibility that it offers as a platform for sharing resources.

Although Moodle has been a good help tool for course management but a lot has to be done by the instructors to maximize the opportunities it has offered, in order to increase students motivation in the usage of Moodle. More resources should be added to Moodle and utilized fully in order to increase collaboration among peers. The findings of this research can be further solidified by also carrying out another research in order to know the instructor's perceptions on this same subject.

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ANNEXURE**Appendix A**

Questionnaire Used:

A. Demographic information

1. Gender

 Male Female

2. Age

 16–21 years 22–25 years 26–30 years 31 years and above**B. Basic Information:**

3. How often do you make use of Moodle for learning purposes on average?

 Daily Weekly Fortnightly Monthly Not at all

4. Has Moodle added value to your learning approach?

 Yes No

5. Did you receive an orientation to Moodle of any type before beginning your course?

 Yes No

6. Did your instructor seem comfortable using Moodle as a learning platform for the course?

 Yes No

7. What's your favourite way of learning?

 By myself with others**C. Moodle components**

Please tick the relevant boxes to indicate how you would rate the following Moodle components and features:

	Very valuable	Valuable	Not Valuable	Never used it
8. Course content	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Announcements	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Assignments	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Calendar	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Chat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Discussions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. File download	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. Forum	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. Grading module	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. Mail	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. Quiz module	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. Resources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

D. Course Experience

How would you rate your agreement with the following statements based on your course experience with Moodle?

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
20. Using Moodle improves the quality of the work I do.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21. Using Moodle gives me greater control over my learning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22. Moodle enables me to accomplish my tasks more quickly.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23. Using Moodle enhances improves my academic performance.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24. Using Moodle makes it easier for me to do my work.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25. Overall, I find Moodle useful in my education.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

E. Overall Experience

How would you rate your agreement with the following statements based on your overall Moodle experience?

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
26. I am comfortable using technology and taking courses online.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
27. I feel comfortable using Moodle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
28. The process of using the Moodle is clear and understandable.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29. The organization and sequence of the course was easy to navigate.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
30. I did not have any difficulty completing class assignments in Moodle.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
31. Moodle improved communication with my classmates.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
32. Moodle improved communication with my instructor.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
33. Moodle promoted a sense of community within the course.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
34. Interacting in Moodle is often frustrating.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
35. Moodle is rigid and inflexible to interact with.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
36. I find it takes a lot of effort to become skillful at using Moodle.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
37. Overall, I would like to see Moodle used in all of my courses.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Appendix B

Interview questions Used:

1. Do you have courses through Moodle?

- How much time student spend using the Moodle?

2. What do you think about using Moodle?

3. In your view, what are the satisfying components of Moodle?

- | | | |
|---|--|---|
| <input type="checkbox"/> Course content | <input type="checkbox"/> Chat | <input type="checkbox"/> grading module |
| <input type="checkbox"/> Announcements | <input type="checkbox"/> Discussions | <input type="checkbox"/> Mail |
| <input type="checkbox"/> Assignments | <input type="checkbox"/> File download | <input type="checkbox"/> Quiz module |
| <input type="checkbox"/> Calendar | <input type="checkbox"/> Forum | <input type="checkbox"/> Resources |

4. What are the dissatisfying components of Moodle that needs improvement?

- | | | |
|---|--|---|
| <input type="checkbox"/> Course content | <input type="checkbox"/> Chat | <input type="checkbox"/> grading module |
| <input type="checkbox"/> Announcements | <input type="checkbox"/> Discussions | <input type="checkbox"/> Mail |
| <input type="checkbox"/> Assignments | <input type="checkbox"/> File download | <input type="checkbox"/> Quiz module |
| <input type="checkbox"/> Calendar | <input type="checkbox"/> Forum | <input type="checkbox"/> Resources |

5. Does instruction through Moodle enhanced your learning? Yes/ No

- How?

6. What has being your experience since you started using Moodle?

7. Does Moodle improve your academic performance? Yes/ No

- How?

8. Do you prefer using Moodle in learning? Yes/ No

- Why?

9. What do you think about Moodle components?

- | | | |
|---|--|---|
| <input type="checkbox"/> Course content | <input type="checkbox"/> Chat | <input type="checkbox"/> grading module |
| <input type="checkbox"/> Announcements | <input type="checkbox"/> Discussions | <input type="checkbox"/> Mail |
| <input type="checkbox"/> Assignments | <input type="checkbox"/> File download | <input type="checkbox"/> Quiz module |
| <input type="checkbox"/> Calendar | <input type="checkbox"/> Forum | <input type="checkbox"/> Resources |

Appendix C

Consent to Participate in a Research Study

CITE STUDENTS' OPINIONS ON E-LEARNING SYSTEMS

Dear students,

We are undertaking a self-evaluation of E-learning using Moodle. To help us in that evaluation, we would be very grateful for your views and opinions on the matters in the questionnaire below. The questionnaire should take between 10 and 15 minutes to complete. Participating in this study is completely voluntary. Even if you decide to participate now, you may change your mind and stop at any time. You may choose not to answer questions for any reason.

There are no risks associated with this study because you may complete the questionnaire anonymously and that all individual responses will be treated confidentially and the topic is not sensitive.

The purpose of this study is to examine opinions of CITE students regarding e-learning systems using Moodle as the focal point. Please, answer the following questions as they relate to you

Thank you very much.

I agree to participate in the study.

Signature

Date