Moodle: the More you Use it, the More you Love it? Evidence about Perceived Usefulness of Moodle from International Business Students

María-Eugenia Ruiz-Molina[1], Antonio Marín-García[2], Maria-Pilar Llopis-Amorós[3]

Abstract

The Learning Management Systems (LMS) have been presented as a useful tool for the teaching-learning process. The purpose of this research is to analyse students' perceptions about the usefulness of a commonly used virtual learning environment, i.e. Moodle, and to assess the existence of differences in these perceptions depending on students' previous experience with this online learning environment. In order to achieve this aim, an online survey was completed by 100 students of the 6-EC (European Credits) International Marketing course taught in English language at the Universitat de València. The results obtained provide evidence in the sense that university students perceive Moodle as useful tool for their learning process, as far as receiving feedback from the instructor, facilitating learning and favouring the knowledge building process, increasing involvement with content learning and allowing for continuous learning are concerned. In general, the perceived benefits of Moodle are more appreciated by those students already familiar with Moodle in comparison to those that had used this platform in the present course for the first time. This finding allows to conclude that those students who have interacted longer with the Moodle platform assess more positively the benefits of using it, specially regarding the contribution of Moodle to favour the knowledge building process and to facilitate learning. Explanations for these results, implications for lecturers using Moodle or other LMS, and suggestions for further research are provided.

Keywords: *Moodle, perceived usefulness, higher education;*

1. Introduction

The implementation of technological developments has modified substantially teaching and learning processes in higher education [1]. Educational institutions have to be open to advances in society to introduce the relevant Information and Communication Technologies and to adapt them to the students' needs and demands [2], thus developing virtual learning environments to facilitate student critical thinking and to promote the interrelationship and reflection on academic contents [3].

Learning Management Systems (LMS) are developed with the purpose to facilitate collaborative work between students facilitating information exchange between users and learning processes [4]. These technological solutions are positively assessed by students when instructors upload varied contents and interactivity between instructor and students as well as between students is high [5]. Therefore, knowledge transfer in higher education contexts should progress towards enhancing students' participation as active agents of their learning process.

The use of Moodle in university courses is remarkable, since it offers the necessary tools to develop a virtual education setting [6]. In particular, Moodle allows the development of three educational models: a) diffuse model or knowledge transfer model, in which student learning depends on the instructor's level of knowledge and there is no supervision of the learning process; b) knowledge accumulation model, assuming that students schedule, review and think about the contents that have at their disposal, being necessary the active participation of the student for his/her learning process; and c) knowledge creation model, conceiving that the function of the instructor is to facilitate learning, whereas students generate their own knowledge from the resources and contents that have been provided by the lecturer [7]. Thus, the present paper aims at analysing students' perceptions about the usefulness of a commonly used virtual learning environment, i.e. Moodle, and to assess the existence of differences in these perceptions depending on students' previous experience with this online learning environment.

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[1] Universitat de València, Spain
[2] Universitat de València, Spain
[3] ESIC Business & Marketing School, Valencia, Spain

2. Method and analyses

In order to achieve the proposed aim, an online survey was completed by 100 students of the 6-EC (European Credits) International Marketing course taught in English language at the Universitat de València. In this course, Moodle is used as a repository of the course relevant materials, as a platform to deliver course activities and to obtain feedback from the lecturer, as well as a forum enabling interactions among lecturer and students. Students' perceived usefulness of the Moodle platform is measured in the survey through a 8-item scale adapted from [8] using a scale, where respondents were asked to rank their disagreement or agreement with the proposed statements from 0 to 3 (i.e. 0=strongly disagree, 1=fairly disagree, 2=fairly agree, 3=strongly agree). Students were also asked about their previous experience with Moodle or with other virtual learning environments, as well as their years of experience with such LMS. Last, classification variables are also included (i.e. gender, age, studies, and nationality).

The online survey allowed to collect 100 valid questionnaires. Table 1 shows the sample characteristics. The distribution of the sample in terms of age and gender is assumed to be representative of the students' population at the Faculty of Economics of the Universitat de València.

Table 1. Sample descriptive statistics.

Variable	Values	N	%
Gender	Male	32	32
	Female	68	68
Age	19	6	6
	20	27	27
	21	32	32
	22	18	18
	23	9	9
	≥ 24	8	8
Studies	Business Administration	29	29
	International Business	55	55
	Economics	8	8
	Marketing	3	3
	Tourism	3	3
	Other	2	2
Nationality	German	21	21
	Dutch	10	10
	Italian	10	10
	French	17	17
	British	4	4
	Irish	8	8
	Danish	3	3
	Chinese	3	3
	Austrian	2	2
	Polish	2	2
	Slovak	2	2
	Belgian	2	2
	Finnish	3	3
	Other	13	13

Once data were collected, first, in order to examine the main benefits of Moodle for learning according to the students' perceptions, means and standard deviations for each item are calculated (Table 2).

Table 2. Mean values and standard deviations for students' perceived usefulness of Moodle for learning

Items	Mean	St. dev.
1. It complements face-to-face learning.	1.82	0.809
2. It increases my involvement with content learning.	1.97	0.674
3. It constitutes an environment that favours the knowledge building process.	2.15	0.626
4. It facilitates learning.	2.19	0.615
5. It is important for my future professional practice because it allows for continuous learning.	1.9	0.810
6. It enables cooperative learning by allowing the students to share information and opinions with their classmates.	1.67	0.853
7. It makes it possible to attend to the diverse interests of the students.	1.6	0.696
8. It is motivating to receive feedback from the teacher about the learning process (through the correction of tasks and exercises, e-mail...	2.25	0.716

From the results obtained, first, it is observed that the perceptions about Moodle that show the highest scores are "It is motivating to receive feedback from the teacher about the learning process", followed by "It facilitates learning", "it constitutes an environment that favours the knowledge building process", "It increases my involvement with content learning" and "It is important for my future professional practice because it allows for continuous learning".

Second, to examine whether the students' perceptions on the usefulness of Moodle for learning differ depending on the student familiarity with this platform, mean values are compared between those students that had their first experience with Moodle in the current course and those that were already familiar with this LMS (Table 3).

Table 3. Mean values and analysis of variance for differences between students' perceived usefulness of Moodle for learning depending on student familiarity with this LMS

Items	Not familiar with Moodle N=67	Familiar with Moodle N=33	F
1. It complements face-to-face learning.	1.76	1.94	1.07
2. It increases my involvement with content learning.	1.90	2.12	2.52
3. It constitutes an environment that favours the knowledge building process.	2.01	2.42	10.36**
4. It facilitates learning.	2.06	2.45	9.95**
5. It is important for my future professional practice because it allows for continuous learning.	1.84	2.03	1.28
6. It enables cooperative learning by allowing the students to share information and opinions with their classmates.	1.78	1.45	3.21
7. It makes it possible to attend to the diverse interests of the students.	1.69	1.42	3.21
8. It is motivating to receive feedback from the teacher about the learning process (through the correction of tasks and exercises, e-mail...	2.30	2.15	0.93

The ANOVA analyses conducted to compare students' perceptions between students already familiar with Moodle and those that had used this platform in the present course for the first time allow to conclude that, in general, scores are higher for those students that were already familiar with the Moodle platform. We may infer that those students that have interacted longer with the Moodle platform assess more positively the benefits of using it. Notwithstanding, there are only significantly higher perceptions for experienced Moodle users regarding the items "It constitutes an environment that favours the knowledge building process" and "It facilitates learning". Thus, the positive contribution of Moodle to the teaching-learning process seems to be visible for students in a short period of time after starting to use this environment.

3. Conclusions

The present case study provides evidence about the perceived usefulness of Moodle to the teaching-learning process in higher education. Although those students that have already used Moodle in previous courses are more positive about the benefits of this online platform, even students that have used Moodle in the present course for the first time assess with high scores the usefulness of this LMS. These findings allow us to infer that the use of Moodle is very intuitive and its positive contribution to the teaching-learning process seems to be visible for students in a short period of time after starting to use this environment. Therefore, in view of the evidence obtained, we would recommend course instructors to try to take advantage of Moodle as a tool to communicate with students, providing them with individual feedback about their performance and to promote work with self-assessment activities and materials related to professional practice in order to effectively contribute to the teaching-learning process.

Notwithstanding, the present research is not free from the limitations in terms of external validity inherent to case studies. Replication of these analyses is required in several courses, diverse areas of knowledge and geographical contexts.

Moreover, the perceived usefulness of Moodle has been evaluated in a face-to-face learning environment, and therefore, it would be interesting to compare these results to those obtained in blended-learning or e-learning settings.

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