THE STUDENT'S PERSPECTIVE: TEACHING USAGES OF MOODLE AT UNIVERSITY

José Sánchez-Santamaría, Francisco Javier Ramos, Pablo Sánchez-Antolín

University of Castilla-La Mancha (SPAIN)
jose.ssantamaria@uclm.es, franciscoj.ramos@uclm.es, pablo.sanchez@uclm.es

Abstract

The vast majority of Spanish universities have integrated Moodle as a Learning Management System (LMS). This is because, in comparison with other LMS, Moodle is a feasible and more effective means for didactic usage. But there are still few studies on the pedagogical impact of Moodle in teaching. Thus, there are a lot of questions to be answered, for instance: What do students know about the tools provided by Moodle? How are these tools used in their training? Are they satisfied with the use of these tools? Which are the needs of teachers? Is the usage of Moodle related with the improvement of teaching? What is the impact of Moodle in the development of professional competencies? The aim of this paper is to understand, analyze and compare the student's perceptions on the didactic usages of Moodle at university teaching. To this end, this study takes a survey design, with the intentional non-random sample of 178 students from Primary Education degree and Social Education degree of Cuenca Campus in the University of Castilla-La Mancha. For collecting information, an *ad hoc* questionnaire, consisting of 5 dimensions and 118 variables, has been used. Data reveal the relevance of Moodle in university teaching: the role that it plays to visualize the teaching outline and to exchange information. To sum up, students show a high degree of satisfaction, but identify some limitations related to teacher training and technical issues.

Keywords: Virtual Learning Environments (VLE), Learning Management Systems (LMS), Moodle, university teaching, students' perspective.

1 INTRODUCTION

In recent years, Spanish universities have greatly increased the introduction of technology in the classroom, increasing their equipment, infrastructure, software available, etc. The aim of this policy is to approach the new educational paradigm posed by the European Higher Education Area, inspired by the demands of the knowledge society. Therefore, this paper shows the main results of a study on the use and impact of Moodle in university teaching. The Learning Management System (LMS) is a type of open source software, i.e., Moodle. It has been designed based on the ideas of constructivist pedagogy (knowledge is constructed in the mind of the student, rather than simply be transmitted) and allows collaborative learning. From the standpoint of educational psychology, Moodle is configured around what is called "social constructionist pedagogy" (Silva, 2011) [1], i.e., combining aspects of constructivism (knowledge is generated through mediation and interaction with the environment) and constructionism (learning by doing).

In the UCLM, there are a few studies that have focused on the impact of virtual teaching (Mondejar, Mondejar and Vargas, 2006) [2] as well as those related to the introduction of Moodle in university teaching (Fernández Muñoz, 2007 [3] 2009 [4], Sanchez-Santamaría and Morales, 2012 [5]). The studies or research on the student's perception about the role of these tools in their learning process are even less representative.

2 AIM, SAMPLING AND RESEARCH METHOD

The aim of this study is to analyze the perceptions of the students on the uses of Moodle in university teaching. In particular, in the development of professional skills in profiles associated with Primary Education and Social Education. The specific objectives are three: a) describe the student's digital competencies, b) analyze the student's perceptions on the knowledge and satisfaction with the educational usages of Moodle, and c) compare the student's perception.

The sample design responds to a non-probability sampling of type of incidental (Salkind, 1999) [6], with a total of 178 students of Primary and Social Education of Cuenca Campus at the University of Castilla-La Mancha.

TABLE 1. SAMPLE CHARACTERISTICS OF THE PARTICIPANTS.

VARIABLES	ATTRIBUTES	TOTAL
I. SOCIO-DEMOGRAPHICS		
GENDER	Female	125 (70.2%)
	Male	53 (29.8%)
AGE (YEARS)		20.6 (Sx: 2.557) Mín=18 / Máx=42
II. COMPUTER RESOURCES		
COMPUTER IN PROPERTY		176 (98.9%)
TYPE	Laptop	123 (69.1%)
	Desktop	7 (3.9%)
	Both	42 (23.6%)
	Others	1 (0.6%)
OPERATING SYSTEM TYPE	Windows	167 (93.8%)
	Mac Os	4 (2.2%)
	Linux	1 (0.6%)
	Other	1 (2.3%)
III. ICT AND MOODLE TRAINING		
ICT STUDENTS TRAINING		86 (48.3%)
WHERE?	University	58 (32.6%)
	Secondary	15 (8.4%)
	Others	7 (3.9%)
MOODLE STUDENTS TRAINING		38 (21.3%)
WHERE?	University	35 (19.7%)
	Secondary	1 (0.6%)

SOURCE: QTUMUT (2012).

The method used is a descriptive-comparative approach with a dimensional questionnaire (Bisquerra, 2004) [7]. For the data collection has been used an ad hoc questionnaire entitled: Questionnaire on Teacher Uses of Moodle in University Teaching (QTUMUT_v01). It has been validated by 5 judges and a pilot experience. It has been composed of five analysis dimensions with 118 variables with a Cronbach's Alpha .952, as recommended by Muñiz (1998) [8]. Moreover, the scale of the dimension II is an adaptation of the Bullón et al (2008) [9].

Data collection took place during the second semester of the academic year 2012. For the analysis of the questionnaire was used SPSS version 19 (IBM, 2010) licensed UCLM.

From the point of view of the sample design and methodology, this study has four limitations that should be considered for proper interpretation of the data presented, namely:

a) Non-random sample selection;

b) Responses cannot be grouped or differentiated according to the subjects and / or subjects studied;

c) Ecological validity, derived from the method of study undertaken;

d) The inter-intra group analysis was performed only in a general way, not having analyzed in detail the variance.

3 FINDINGS

3.1 Knowledge about Technology Resources and Moodle

Regarding the knowledge of the participants in the study on technological and information resources, and skills related to their use, quite high values have been noticed.

TABLE 2. DIGITAL KNOWLEDGE AND COMPETENCIES

SUB-DIMENSIONS AND VARIABLES	M_o	M	SX
SUB-DIMENSION I. DIGITAL KNOWLEDGE			
TO KNOW PLAYERS OF VIDEO AND VVD	4	3.86	.943
TO KNOW DIFFERENT PROGRAMS FOR BROWSING IN INTERNET	4	3.80	.864
TO KNOW DIFFERENT RESOURCES OF IM, CHAT	4	4.19	.875
TO KNOW DIFFERENT WORD PROCESSORS, SPREADSHEETS	3	3.28	.990
TO KNOW THE BASIC SCANNER OPERATION	4	3.53	1.090
TO KNOW THE MANAGEMENT OF VIDEO CAMERA	4	3.80	.998
TO KNOW THE VARIOUS COMPONENTS OF A COMPUTER	3	3.29	.917
TO KNOW THE BASIC FUNCTION OF AN OPERATING SYSTEM	3	3.10	.992
TO KNOW DIFFERENT NETWORKS	5	4.32	.866
TO KNOW VARIOUS MOBILE DEVICES	5	4.13	.974
SUB-DIMENSION II. DIGITAL COMPETENCIES			
TO BE ABLE TO INSTALL OF PROGRAMS	4	3.60	1.181
TO BE ABLE TO USE DISCUSSION FORUMS	4	3.72	1.029
TO BE ABLE TO EDIT VIDEOS	3	3.13	1.107
TO BE ABLE TO USE A PROJECTOR PRESENTATIONS	4	3.70	.979
TO BE ABLE TO SEARCH IN DATABASES	3	3.10	1.177
TO BE ABLE TO DEVELOP BLOGS	3	3.07	1.247
TO BE ABLE TO DESIGN SIMPLE WEBSITES	3	2.46	1.179
TO BE ABLE TO DESIGN VIRTUAL PLATFORMS ACTIVITIES	1	2.16	1.058
TO BE ABLE TO CREATE DISCUSSION FORUMS IN INTERNET	3	2.49	1.175
TO BE ABLE TO DESIGN MULTIMEDIA APPLICATIONS	1	2.12	1.098
TO BE ABLE TO APPLY WITH EDUCATIONAL SOFTWARE	3	2.74	1.161
TO BE ABLE TO USE INTERNET TO THE LEARNING	3	2.83	1.167
TO BE ABLE TO MANAGE VIRTUAL LEARNING PLATFORMS (VLP)	4	3.74	.921

SOURCE: QTUMUT (2012).

About Moodle, more than 70.0% have an average (48.3%) and advanced (24.7%) level. However, it is noteworthy that more than 25.0% of second course students marked a "started" or "without knowledge" level, as they must have some experience in using Moodle after its extensive use in first year.

TABLE 3. MOODLE KNOWLEDGE

TOTAL	M	SX	GROUPED M	STANDARD ERROR M
	2.98	.809	3.00	.061

SOURCE: QTUMUT (2012).

3.2 Moodle Satisfaction on University Teaching

There is a direct relationship between the use of Moodle and the degree of satisfaction with it.

TABLE 4. PERCEIVED SATISFACTION ON MOODLE TOOLS.

MOODLE TOOLS	TOTAL	
	M	SX
UPLOAD DOCUMENTS	3.99	.806
LESSON	3.02	1.280
DATABASE	2.35	1.195
WORKSHOPS	2.14	1.144
FORUMS	3.54	1.063
CALENDAR	3.39	1.226
DELIVEY DOCUMENTS	4.03	1.046
E-MAIL	3.75	1.164
CHAT	2.16	1.114
CHECKLIST	1.99	1.058
WIKI	1.81	.996
QUESTIONNAIRES	2.58	1.138
GLOSSARY	2.19	1.083
INQUIRIES	3.12	1.292
DAILY	2.05	1.080

SOURCE: QTUMUT (2012).

3.3 Strategies and Usages of Moodle

As shown in Table 8, in general terms, the use of Moodle is more related to lectures and individual work than with other teaching strategies. This advance as one of the predominant uses of Moodle: repository of information. And, therefore, it is associated as an additional resource in the teaching act.

TABLE 5. USAGES OF MOODLE WITH REGARD TO THE TYPE OF TEACHNIG STRATEGY.

TEACHING STRATEGIES	TOTAL	
	M	SX
LECTURES	3.66	1.217
WORKSHOPS I	1.99	1.050
WORKSHOPS II	2.92	1.291
GROUP WORK	3.58	1.177
SEMINARS	2.02	1.162
INDIVIDUAL WORK	4.15	1.017

SOURCE: QTUMUT (2012).

3.4 Overall rating of Moodle at University

Between the main advantages listed by students of Moodle and / or derived from their use, can be included: monitoring classes; access and availability of material; communication with the teacher, which facilitates student work regarding shipments; the organization of the materials, which fosters communication and discussion among peers, etc.

And, regarding the disadvantages or areas for improvement of Moodle and / or arising from its use, students identify the following: lack of teacher training, technical problems, confusions between virtual and face-to-face tuition, student training, the low use of some teachers, the need for internet access, updates, etc. Students understand that the main use made of Moodle in the subjects they have studied is only to convey information and / or content (M = 4.17, Sx =, 808). Moodle has much less weight in promoting competence acquisition processes (M = 3.26, Sx =, 915). And, almost residual function development and creation of new knowledge in interaction between students and teachers (M = 2.33, Sx = 1.092).

4 CONCLUSIONS AND DISCUSSION

This paper tried to discover, analyze and compare the perceptions of students in the second year of the degree in Primary Education and Social Education at the University of Castilla-La Mancha in Cuenca Campus (Spain). This work is aligned with those who now seek to understand and explain what are the uses and impact conceptions of learning management systems in university teaching, specifically the virtual platform Moodle. The evidence derived from this descriptive-comparative work is useful to the improvement and skills development of the students and teachers. Above all, the importance of being able to harness the full potential that Moodle offers us. However, we have to be aware of its pedagogical limitations. That evidence encourages us to further explore the organizational, methodological and assessment implications of Moodle in university teaching, and to seek to promote a more active role of the student in collaboration with other virtual learning environments as the personal learning environments.

This study has thrown some light on five questions about educational uses of Moodle from the perspective of students, namely:

a) The knowledge and digital skills are useful to know how Moodle works, as they act as a predisposing factor. This should be covered by training processes to help students learn how to use Moodle;

b) One of the problems identified regarding the use by teachers of Moodle is its competence related to their lack of training;

c) Current educational uses, not only wasted the potential of Moodle, but also make it a very limited tool for skills development and the creation of new knowledge and forms of social interaction in the context of university learning. Moodle isn't promoted as a space for collaboration and coordination between teachers and students. However, their use has allowed improvements in the times and modes of interaction, as well as facilitated formative assessment processes.

d) The overall assessment is very positive about Moodle, as it is a tool that allows us to work from a constructivist approach widely used in university contexts.

e) There are no significant differences between the opinions about the usefulness, satisfaction and teaching uses between the two degrees studied. This should be interpreted with some caution, as it may be due to two factors: first, to look at the issue from the course and not from the subject, we can to be generalizing, and, second, it may highlight the similarities in the methods and strategies of teaching between both degrees.

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