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A Study about Using E-learning Platform (Moodle) in University Teaching Process

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Abstract

The paper present a study about using e-learning platform in university teaching process. The study aims to present the relevant results of a questionnaire administered to a group of students from of different faculties of University POLITEHNICA of Bucharest and identified the way in which Moodle platform could increase the learning motivation and how much are the interested students to develop learning activities in the virtual space. Following this empirical research, a series of conclusions could be drawn and synthetized, as concerns the need of training and information the e-learning domain.

Keywords: e-learning, MOODLE, virtual learning environments (VLE), higher education, modern teaching strategies.

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1. Paper Rationale

The present paper aims to identify the perception of students belonging to various faculties within the University POLITEHNICA of Bucharest regarding Moodle E-learning Platform and its use in the faculties they come from. The above-mentioned learning platform has been implemented within the university in recent years and, even though its use has not become compulsory so far, it definitely contributes to making the learning and communication process between students and the teaching staff more efficient. Since attendance is compulsory for all courses that take place within University POLITEHNICA of Bucharest (we do not organize distance learning courses), Moodle platform is used as learning resource, as teaching-learning-assessment means alongside traditional teaching, learning and assessment methods and means.

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Another aim of the present paper is to check whether our students know about the existence of this learning platform, whether they have accessed it and in what way its use modifies the learning process.

2. Paper theoretical foundation and related literature

The development of the Internet and its applications determined an increase of the role of computer-based instruments in the learning process. This is the reason why educational institutions have an increasing need to use virtual learning environments (VLE), namely an electronic learning platform that accompanies the traditional teaching-learning-assessment process. As a result, a series of applications appeared, having the role to enable the integral management of the on-line learning process, as well as the blended learning-type applications (Popat, K, MacLean, H, Heppell, S., 2007).

This type of platforms have two roles: on the one hand, they enable the content management (courses, homework), ensure synchronised collaboration (by chat, videoconferences), as well as non-synchronised collaboration (forum, messages, blog.) and, on the other hand, they can be used in managing the courses and the students that applied for these courses (Weller, M., 2007).

As VLE use and management is complex, this type of platforms have started being used especially in universities, in managing distance learning courses in particular (Oproiu, G. C., & Chicioareanu, T. D., 2012).

Within this context, the MOODLE system constitutes itself as a virtual learning environment (VLE), where the learning process is completed online, representing a software open source and is destined to support a collaborative learning environment. It constitutes a new learning framework, based on the constructivist pedagogy where both teaching staff and students meet, complete collaborative activities and create information (www.moodle.org).

As a free of charge resource, it can be installed on a server in order to be accessed from any computer connected to the Internet. It has a simple and logical interface, organised by modules; as a result, it can be easily used by users that do not have very advanced digital competences as well.

By means of this platform an interactive way of action between teaching staff and students is provided. Within this virtual environment students learn by direct, collaborative participation, where both students and teaching staff can have synchronised or non-synchronised access to the platform.

Moodle can be successfully used both in the educational system, and in private or public institutions. Moodle can be used in universities in various purposes, both in full-time and part-time learning, e-learning or blended learning, both in the initial and continuous formation.

This e-learning platform provides users with a series of communication facilities, such as forum, chat and message system, wiki space and so on (www.docs.moodle.org). By means of forums we can communicate in a non-synchronised manner, which can enable students to communicate with their mates or their professors at any time, provided an Internet connection exists. The forum discussions can be related to general interest topics or can be focused on a certain topic, where any user can initiate a discussion. Unlike forum, the Chat system provides the opportunity of synchronised, real-time communication between the users on the course platform. By the message system, private communication between users is completed. In Moodle, wiki is a space where students can complete collaborative activities. Ideal for being used in groups, it can be used in seminar or project activities.

Among the advantages of using this platform in learning activities, we can identify the following:

- Teaching staff have a more facile contact with the students that applied for the course, by the virtual classes created.
- It may constitute an environment where courses, topics of laboratories and seminars or necessary bibliography can be posted.
- A space where students' data can be easily dealt with (virtual secretariat) may be constituted.
- It provides knowledge assessment and self-assessment opportunities by online testing.
- It enables good communication and socializing by means of chat or forum, both between trainees and with the teaching staff. Individual communication with the teaching staff can be achieved or topics can be debated on by all members that access the platform.

3. Methodology

The questionnaire-based inquest has been used in the present empirical research. The questionnaire applied to students had 12 items, most of them closed items and has been applied online, by using Google Drive application. 52 students of the University of Bucharest answered the questionnaire, which aimed at highlighting the students' perception regarding the interaction with new environments and learning techniques, particularly Moodle learning platform.

The respondents are students belonging to various faculties within the University POLITEHNICA of Bucharest , namely The Faculty of Automatic Control and Computer Science, The Faculty of Engineering and Management of Technological Systems, The Faculty of Applied Chemistry and Materials Science, The Faculty of Engineering in Foreign Languages.

An equal number of girls and boys participated in the study, which shows the girls' interest in using Moodle platform in order to make learning more effective.

4. Results

Most students who filled in the questionnaire are second year students (53%), but students in other years of study also participated (3rd year students- 20%, 1st year students- 17% and 4th year students- 10%) (table 1).

Table 1. Distribution of respondents by year of study

Year of study	Respondents (%)
First year	17
Second year	53
Third	20
Fourth	10

When questioned on whether they know about the existence of the Moodle platform, 82% of the respondents answered that they were informed on that within the university, at their courses (fig.1). This owes to the fact that there are faculties within which students are under the obligation of accessing this platform. Most seminar activities within the Faculty of Automatic Control and Computer Sciences involve accessing the platform. However, not all faculties impose the use of virtual environment in the learning process, although all the students of the university have accounts and are enrolled in the semester courses.

Most of the respondents (80%) answered that they found out about the platform from their course professors, followed by 16% who found out about that from their colleagues (fig.2).

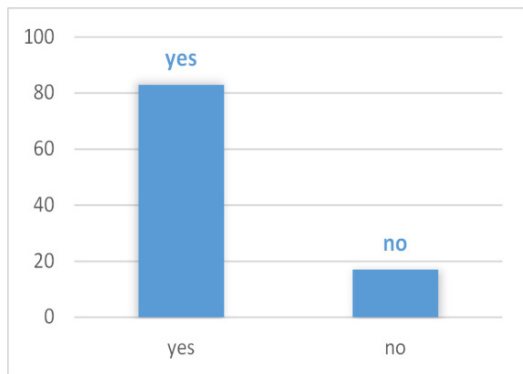


Fig.1.Students who know about the existence of Moodle

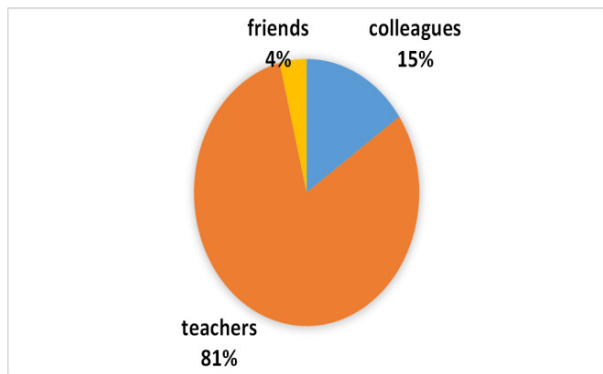


Fig.2. Source of information

Regarding the frequency the platform is used, 45% of the respondents stated that they do not use the platform at all. This percentage is quite high, taking into account the fact that most respondents who answered in this way are 1st year students of the faculties where its use is not mandatory.

28% of the respondents stated that they use the platform quite rarely, namely once a week (18%) or once a month (20%). Quite a small percentage is represented by the students who use this platform daily, namely the students belonging to the Faculty of Automatic Control and Computer Sciences (fig.3).

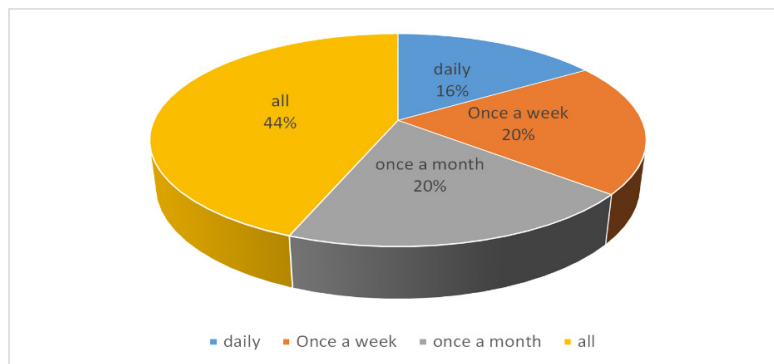


Fig.3.Frequency of use of the platform

Most questioned students (88%) wish they could use the platform more often (fig.4). This percentage indicates the fact that this platform has the potential of being used in the university, as long as the students are informed on the practical applications it provides them with. The teaching staff has the role of creating activities that facilitate the students' learning and motivating them, in this way, to use this virtual learning environment.

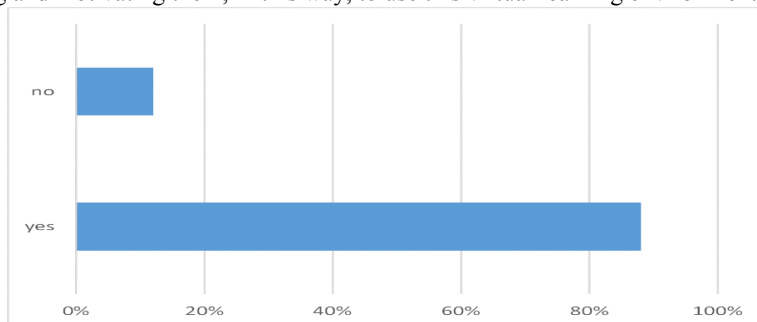


Fig.4.Interest in using the platform

When questioned on the usefulness of such a platform within their faculty, 80% confirm the fact that using such a platform is beneficial. 14% do not know how useful would be for them to use such a platform, whereas 6% deny its usefulness. Since the educational process takes place in full-time attendance system, some students consider that their direct participation in the teaching and learning activities is sufficient. Thus, it may be helpful to advertise and popularize this VLE within students and some initiation courses in using the platform may be necessary.

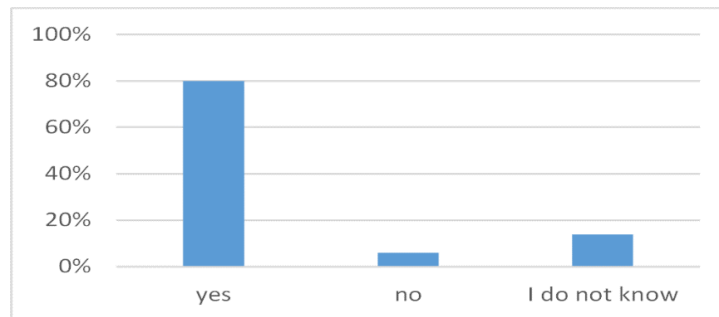


Fig.5. Usefulness of the platform

When questioned on the extent to which using the platform increases the efficiency of the learning process, most students gave a positive answer (57%), whereas 5% answered negatively and 3% do not know. (Fig.6).

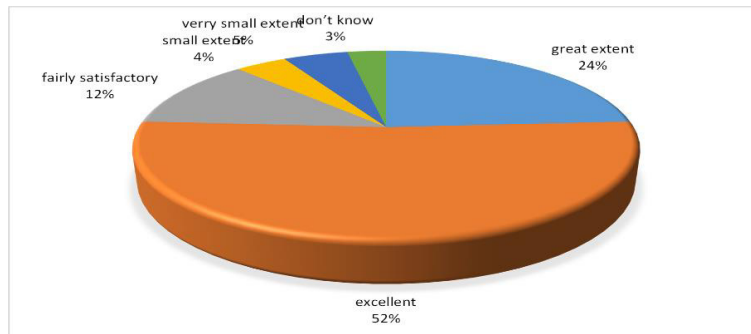


Fig.6. Increasing learning efficiency

Another item dealt with identifying the purposes to which the platform is used. More than 40% of the students use the platform for downloading their courses, whereas 22% state that they use it only to do their homework and their projects. Using the forum, the chat and assessment recorded a far smaller percentage than course downloading and homework, which makes us conclude that it represents a minus for the platform, such a small percentage being caused by excessive use of socializing sites (Facebook) or e-mail (Yahoo!).

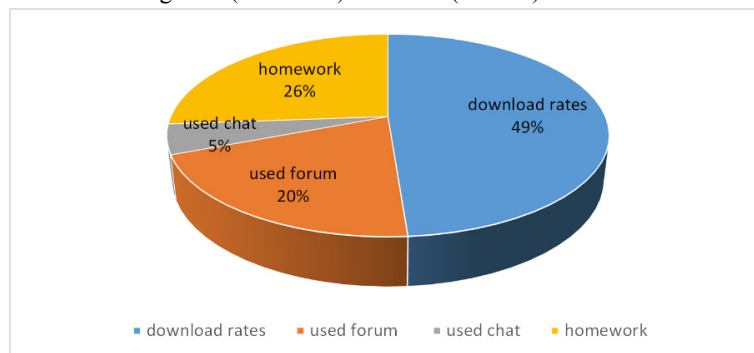


Fig.7. The purpose of using the platform

Multiple answers were recorded to the question “Which other facilities would you like the platform to provide you with?” as follows:

- Further practice- exercises related to the course
- Automatic check for the homework they send
- Automatic checker
- Exam /Homework and project /Communication Session schedule
- Upload for certain solved exercises
- Existence of certain on-line tests
- Access to all courses in a university year
- Presence of films illustrating laboratory experiments

The above-mentioned answers show that the students are really willing to use the platform, as long as they are provided with diverse materials that support them in their learning process.

At the question “How necessary do you consider to be the interaction with teaching staff in virtual environment?” 39% of the students consider that the dialogue with the professors on the platform is very necessary, whereas 12% do not consider that communication with the lecturer or the teaching assistant via Moodle is so necessary (fig.8).

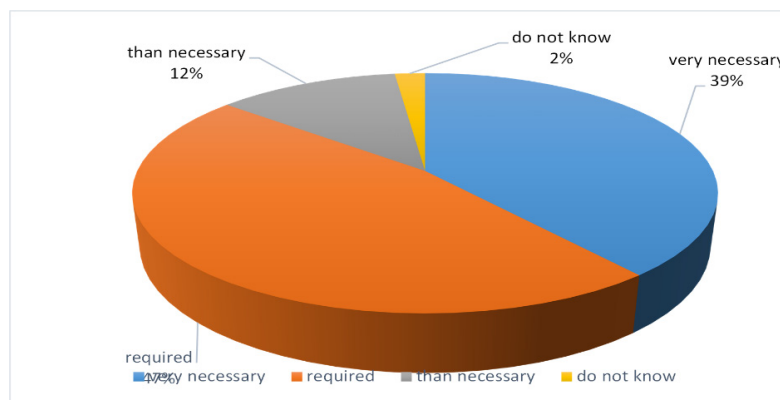


Fig.8. Interaction with the teaching staff

Students have identified some of the benefits of using MOODLE:

- They get the course and the topics, a virtual library they can access any time, according to their study availability
- They can collaborate with their colleagues in doing homework
- As they are familiar with the electronic environment, they find this learning method easy, at hand
- They can create information and post it on the forum or blog
- They can contact the professor directly
- Online assessment is more objective than the traditional one
- Self-assessment can be easily completed

5. Discussion

After analyzing the responses received from students we can make the following statements:

- Although they are aware of the existence of the Moodle platform in their university, they are not completely aware of the facilities this platform provides. They express their availability for using this learning environment as they are attracted by everything that means technique, technology, the internet.

- The students would like to be stimulated by the teaching staff in using the platform by extra materials and other facilities that could make their learning process easier;
- It is desirable that teaching staff become more active and interested in using the new teaching environment;
- Quite a small number of students in the first university year use the platform, which is partly caused by the fact that they do not know about its existence, as not all the members of the teaching staff are in favour of forum activities. The students should be informed on how to use the platform, at the beginning of the first year of study.
- They are interested in interacting with the teacher on the platform in order to create a friendly learning environment and receive immediate feedback;
- The use of the platform provides learning autonomy.

Conclusion

Although it cannot replace traditional education, the internet opens new teaching-learning-assessment opportunities. The information obtained in this manner, the mobility of its use, makes e-learning come up as a completion and continuation of traditional education.

Although initially created for distance education, Virtual Learning Environments are at present used as auxiliaries for the traditional didactic activities, known as Blended Learning.

The increase in the use of VLE by universities and other formation institutions is a reality and will definitely have an important impact on the learning process.

The Moodle platform, which has become more and more used in Romania, comes as a support for the educators who aim at increasing the quality of online courses, but also as a support for students in order to facilitate their learning.

The research in the field of e-learning in Romania is at the beginning, as there are still issues that need to be clarified, from the conceptual, theoretical, psycho-pedagogical, and practical point of view.

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