

## Teaching to teach with a LMS: The experience at University of Perugia

Filomia, Maria; Santucic, Valentino; Vinti, Gianluca; De Santis, Giovanni Maria Perfetto; Falcinelli, Floriana; Frenguelli, Giuseppe; Lorenzi, Carlo; Moriconi, Alessio; Siepi, Donatella; Valori, Furia; Ranucci, David; Milani, Alfredo; Marianelli, Massimiliano

University of Perugia, Italy.

---

### **Abstract**

*A Learning Management System (LMS) is nowadays a pivotal element in the education environment of a modern university. However, though it generally has a beneficial and positive impact on the education, a part of the teachers is sometimes reluctant to adopt a LMS because of the perceived usage difficulty. Therefore, it is clear that a key step in order to spread the use of a LMS is to teach to the teachers how to use it and which benefits their teaching activities can gain. In this paper, we report and analyze the experience we had at University of Perugia. An e-learning course has been released to the (approximately) 1000 teachers of the university with the aim of introducing them to the basic tools provided by the LMS. Importantly, the course has been created and delivered by means of UniStudium, i.e., the Moodle-based LMS deployed in our university. This allowed us to collect interesting quantitative and qualitative data that have been elaborated and analyzed. The analysis shows that the activities carried out reached a prominent percentage of teachers, by also providing us important suggestions and hints to guide our future activities in this direction.*

**Keywords:** *online training; higher education; professional development*

---

## 1. Introduction

Combinations of traditional and modern ICT and e-learning education methodologies are generally considered to greatly improve the learning process (Matukhin & Zhitkova 2015, Herlo 2014, Ranieri et al. 2018, Filomia 2016). In this scenario, academic institutions are increasingly playing a key role by introducing policies and initiatives to support teaching quality and to achieve the objectives of the Bologna Process (Surssock, et al. 2010, Veiga, A. & Amaral A. 2009, Sin 2012).

In this paper, we report and analyze the experience we had at the University of Perugia (UniPG). This experience is part of a project called PRO3, funded by the Italian Ministry of Education, and it has been held between November and December 2017. A self-paced online course has been released to the UniPG faculty members with the aim of introducing them to the tools provided by *UniStudium*, i.e., the UniPG learning management system. The aim is to provide to the academic teachers an environment where the learning process integrates technology enhanced strategies and face-to-face activities. The interaction capabilities of the e-learning environment promotes academic enhancement and innovation in learning and teaching activities according to Bologna Process and Dublin's Descriptors (Sin 2012). Therefore, this study also aims to investigate if and how an online self-paced course can be considered an appropriate training tool for a university teacher.

## 2. The Self-Paced Online Course

The aim of this activity is to provide basic and intermediate knowledge to UniPG teachers on the use of the tools implemented in the Moodle platform of our university, namely, UniStudium. The activity has been conducted by creating a online course made available to teachers through UniStudium itself. Therefore, UniStudium is both the subject and the means by which the course has been delivered to teachers.

The course has been designed as a sort of “virtual book” and it is composed by five chapters, i.e., five macro-topics of increasing difficulty covering an above-average use of the UniStudium tools. Each chapter is then divided in different paragraphs.

Paragraphs have been conceived as web pages and are implemented using the Moodle *page* activity. All the pages contain both a textual description and a video-tutorial. Then, pages belonging to the same chapter are grouped together in the same section of the course (the topic-based course layout of Moodle has been adopted). A clarificatory illustration is provided in Figure 1.

The five chapters are:

1. *First steps*, which provides basic informations such as how users access the system and how courses are organized.
2. *Create teaching material*, where the main Moodle resources are described.
3. *Student access control*, where instructions to limit or extend the audience of a Moodle course are provided.
4. *Interaction with the students*, which describes the main Moodle activities such as forum, assignment and quiz.
5. *Advanced tools*, where it is described how to monitor student engagement.

All the content has been released in a “single shot”. Due to the very variegated level of e-learning knowledge among UniPG teachers, this choice allowed to accommodate the expectations of both the teachers who never seen an LMS before and the teachers using it on daily basis.

In the days immediately following its deployment, the course has been publicly presented through a series of “physical” meetings organized on every department of our university.

In order to collect data for this analysis, the following actions have been carried out:

- completion tracking has been enabled on every single page/paragraph,
- the time spent inside the course by every teacher is recorded,
- teachers are invited to provide a feedback by means of an anonymous questionnaire,
- teachers are invited to provide suggestions and highlight criticalities by means of a discussion forum,
- attendance to presentation meetings has been recorded.

In particular, the anonymous questionnaire, created by means of the feedback module of Moodle, allowed us to have an indication of the teachers agreement on the course content and its practical utility for the teaching activity. The questionnaire is mainly composed by Linkert-type questions, i.e., questions with five possible answers labeled from 1 to 5 and where 1 represents a *strong disagreement* while 5 is a *strong agreement*. Furthermore, teachers are also invited to express their suggestions through a text field.

### **3. Findings**

Two analyses have been conducted. The quantitative analysis aiming to gauge the number of attendees is described in Section 3.1, while the analysis of the anonymous questionnaire is provided in Section 3.2.

#### **3.1 Quantitative analysis**

Objectives of this analysis are to assess how many teachers have attended the course and which topics have received more interest. These data have been also disaggregated and observed on the different areas to which the teachers belong.

Each teacher is considered to have attended the course if and only if at least one of the following four criteria has been satisfied:

- a) the teacher has attended the presentation meeting,
- b) the teacher has submitted a feedback through the anonymous questionnaire (though answers are anonymously collected, submission information is anyway recorded),
- c) the teacher has completed (i.e., viewed) at least five paragraphs of the course,
- d) teacher activity on the platform has been recorded for at least one hour.

In criterion (c), the minimum number of five paragraphs, over a total of 19, has been considered because we think it is a reasonable threshold allowing to simultaneously take into account both principiant and more expert users. Moreover, criterion (d) considers a threshold of one hour because it is approximately the total duration of the video-tutorials embedded in the course pages.

The absolute and percentage quantities of teachers who attended the course are provided in Table 1. Note that the number of attendances has been disaggregated both for teachers areas and basing on the satisfied criteria.

Table 1 shows that the course has been attended by almost 412 teachers, i.e., almost the 40% of the university teachers. Moreover, four areas over six have a percentage of attendance greater than 45%, while the only two critical areas are medicine and economy-law-political science, thus suggesting that future initiatives are particularly needed for the departments of these areas.

**Table 1. Attendance data**

Teachers Area	Teachers	Attendances	Crit. (a)	Crit. (b)	Crit. (c)	Crit. (d)
Agriculture and Veterinary	139	90 (65%)	56	55	60	47
Economy, Law and Political Science	184	45 (24%)	43	11	11	7
Engineering	131	60 (46%)	10	40	54	45
Humanities	137	68 (50%)	32	34	53	34
Medicine	224	24 (11%)	11	10	16	7
Sciences	237	125 (53%)	50	86	112	73
University total	1052	412 (39%)	202	236	306	213

Furthermore, for each paragraph, the number of teachers that have read it (or watched its video-tutorial) has been recorded. For the sake of space we briefly discuss these data without providing tabular details. The main consideration is that the number of reads in the first and second chapters are around the 20% greater than in the last three chapters, thus suggesting that the first part of the course is likely to be enough for a principiant user.

### **3.2 Anonymous questionnaire**

The questionnaire has been completed by a total of 236 teachers divided as follows: 39.16% associate professors, 29.72% assistant professors, 13.99% full professors, and 4.55% adjunct professors. The results show that 87.41% (agreed or strongly agreed) of teachers found the online course helpful to learn. The textual presentation of the course was clear (60.84% strongly agreed) as well as the video-tutorials (61.19% strongly agreed). The interaction with the course contents was simple and intuitive (88.81% agreed or strongly agreed) and the course was easy to follow (92.31% agreed or strongly agreed).

The full detail of the answers is shown in Table 2.

**Table 2. Teachers's degree of agreement on course content**

<b>Sentence text</b>	<b>Opinion Categories</b>	<b>Percentages %</b>
I found the course helpful to learn how to better use the UniStudium platform	Strongly disagree	1.75
	Disagree	2.80
	Neither agree or disagree	8.04
	Agree	32.17
	Strongly agree	55.24
The textual presentation of tools was clear	Strongly disagree	0.70
	Disagree	1.05
	Neither agree or disagree	5.59
	Agree	31.82
	Strongly agree	60.84
The video tutorial of tools was clear	Strongly disagree	1.40
	Disagree	2.10
	Neither agree or disagree	5.24
	Agree	30.07
	Strongly agree	61.19
The interaction with the course contents is simple and intuitive	Strongly disagree	1.05
	Disagree	2.80
	Neither agree or disagree	7.34
	Agree	35.31
	Strongly agree	53.50
I find the course easy to use	Strongly disagree	1.05
	Disagree	1.05
	Neither agree or disagree	5.59
	Agree	31.47
	Strongly agree	60.84

The second group of sentences is focused on teachers' perception about of knowledge transfer to improve teaching practices. The results showed that the teachers improved online platform skills (74,83 % agreed or strongly agreed) and that they consider Unistudium a useful support for their teaching practice (76,23% agreed or strongly agreed) 59,9% (agreed or strongly agreed) of Unipg teachers believe that the e-learning environment can improve students motivation, and 70,63% (agreed or strongly agreed) believe that the e-learning environment can create a new custom relationship. This is show on table 3.

**Table 3. Teacher’s degree of agreement on course content in terms of knowledge transfer to concrete teaching practices**

<b>Sentence text</b>	<b>Opinion Categories</b>	<b>Percentages %</b>
After this course I believe that I will use the Unistudium platform more in my teaching practice	Strongly disagree	3.15
	Disagree	2.80
	Neither agree or disagree	19.23
	Agree	30.77
	Strongly agree	44.06
After this course I believe that UniStudium can support me to create a more profitable relationship with the students	Strongly disagree	3.50
	Disagree	4.20
	Neither agree or disagree	21.68
	Agree	35.66
	Strongly agree	34.97
After this course I believe that UniStudium can support my students’ motivation to learn	Strongly disagree	5.94
	Disagree	9.44
	Neither agree or disagree	24.48
	Agree	29.72
	Strongly agree	30.42
After this course I believe that UniStudium can support my teaching practice	Strongly disagree	2.80
	Disagree	3.85
	Neither agree or disagree	17.13
	Agree	33.92
	Strongly agree	42.31

#### **4. Conclusion**

The data collected and the analyses presented in this paper show that the self-paced online for UniPG teachers generally had a positive impact. Considering that this is the first initiative of this type in our university, a good number of attendees has been reached (39% of UniPG teachers) and, most importantly, teachers clearly express their satisfaction with respect to course content and how it is delivered to them. Finally, our research has also shown that the modern technologies provided by the Moodle LMS are considered simple to use and very useful in improving teaching activities.

## **References**

- Bologna Follow-Up Group (2005). Framework for Qualifications of the European Higher Education Area. Copenhagen.
- Filomia M., (2016). Il blended learning: una possibilità per la formazione. in Falcinelli F, Moschini M. (2016). Progettazione, gestione e coordinamento dell'oratorio. Franco Angeli. Milano
- Herlo D.,( 2014). Improving efficiency of learning in Education Master Programs, by blended learning. *Procedia- Social and Behavioral Sciences*. 191, 1304-1309
- Matukhin D., Zhitkova E. ( 2015). Implementing Blended learning Technology in Higher Professional Education. *Procedia- Social and Behavioral Sciences*. 206 ,183-188
- Ranieri, M. Raffaghelli J.E., Pezzati. (2017). Digital resources for faculty development in e-learning: a self-paced approach for professionale learning. *Italian Journal of Educational Technology*, [Available at: <<http://ijet.itd.cnr.it/article/view/961>>.
- Rizzitello M.(2017). Design Recommendations for Self-Paced Online Faculty Development Courses. *TechTrends*, 61, 77-86
- Sin, C. (2012). Academic Understandings of and Responses to Bologna: a three-country perspective. *European Journal of Education*, 47 (3), 392-404.
- Sursock, A. & Smidt, H. (2010). Trends 2010: a decade of change in European higher education. Brussels: European Universities Association.