

Implementing eLearning and eExamination in European Universities: Factors of Success

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Abstract

To implement eLearning and eExamination in Universities is not a simple task. Many problems have to be solved and many questions have to be answered in the course of the establishing new learning infrastructures in European Universities. To name some of these questions: top down or bottom up approach? technology driven or didactics driven organisational development? open source or commercial provider of technical environment? nature of services provided to teachers and students? level of integration with other University infrastructures? juridical aspects and data protection... Here, in Erlangen University (Bavaria), we have set up a comprehensive learning and examination environment which is widely accepted and has reached within three years full coverage of students and 3/4 of the teaching staff. A complex service offer has been developed, ongoing platform development takes place in close cooperation with the teaching staff. The paper will report about the current use of the platform, including unusual uses, the factors of success we have experienced, recent evaluation results, and future development scenarios like embedding of ePortfolio and the virtual opening of the University.

Introduction

The success of Learning Management Systems in Universities is not evident. Many colleagues complain about use only in some departments, about resistance and weak acceptance on the side of the teachers and the students. Often, there are complaints about missing support from the University administration or from the Directorate. Frequently, conflicting groups can be identified which try to establish competing learning environments at different angles of the University. Sometimes, in LMS deployment, the focus is on administration of courses, sometimes on content development, sometimes on the technical sophistication.

Often, we find well financed, well-intentioned projects which forget thinking about sustainability from the beginning of the project and are not able to organize the turnaround at the end of the project. Or we find very enthusiastic pioneers which have good success in their narrow institutional environment but which are not accepted or followed by others [1].

We, from the Institute for Innovation in Learning (ILI), are going to report about our practice at University of Erlangen-Nuremberg, where we tried to avoid some pitfalls and could reach an University-wide, far reaching acceptance. Moreover, we will take a marginal look into the future, into the wider use of the LMS.

History

The project FAU-StudiumOnline (StudOn) was started in cooperation with the University Computing Centre, in a clear division of tasks.

Two strands have been followed from the beginning: Innovation in learning and teaching and innovation in examination. The University IT infrastructures and the workflows have been analysed, the interfaces have been defined. Mainly three systems had to be linked: The University Course Catalogue, the Learning and examination management system and the assignments administration system.

Now, after three years, more than 35.000 students and teachers, this means all students and about 4/5 of the teachers use the infrastructure heavily, with more than 10.000 visits per day – by now the most used University IT infrastructure. Many thousand students have already passed eExams.



We are going to report about the spirit of the project, the current variety of use and some evaluation results.

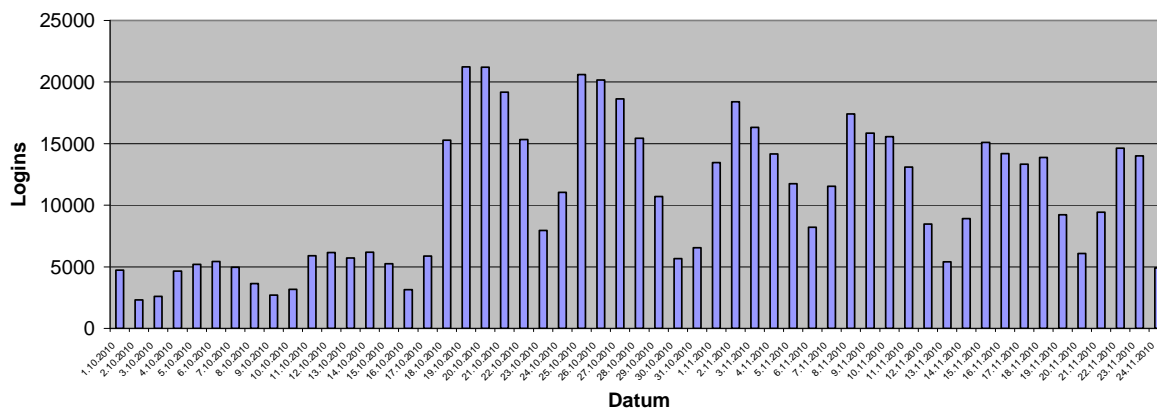


Table 1: Daily visits at the beginning of the winter semester 2010/11

Philosophy

The main guiding principle when starting the project was a systemic approach which the following main components to consider: Target groups (teachers and learners (students)), didactics, technology, content, communication, juridical aspects.

Target groups

From the beginning of our activities, the process owners were not only the project team people, but, equally, students and the teachers. Both target groups have been included in the initial discussions and have been "partners" in the project. This led to a service oriented approach, where all questions and problems of all customers are directed to a one stop shop with identifiable persons behind, which react to every demand within 24 hours, often also during the weekend.

Moreover, the existing media competency of the teachers was taken up and responsibility was given to multipliers in the different faculties. This openness resulted in a distributed awareness, conviction and support strategy from "inside" the departments. The students got their own playgroups where they could organize themselves.

Didactics

Since innovation in learning and teaching is primarily not a technical, but a pedagogical issue, the role of didactics is seen as paramount, with technology as the enabling factor. Since our (interdisciplinary) institution is based in psychology and since there is a long experience in learning innovation, there was no danger to consider the project as a technological playground. All technical options are judged under their added value for learning and teaching – in the best possible balance of resources and learning effects.

Technology

Regarding technology, the first decision to be taken was the choice between Open Source and a commercial product. Since ILI works in the field of learning experimentation, it was clear that there was the aspiration to develop the learning environment further, according to the needs and contexts of the teachers. So we went for Open Source (ILIAS) and, from there, we were in permanent development contact with our clients which have very clever and demanding ideas. Since ILI is part of

the platform developers group, many local adaptations are taken over in the main version of the LMS which facilitates versioning.

Another challenge was the transparent and user friendly integration of the LMS in the overall University IT infrastructure. The main transitions are established and stable; the LMS is linked to the University ID Management, so the provision of students data is automated and always up to date. Access to the IT systems including LMS takes place in a Single Sign On logic. This means that all systems can be entered by using the same access code.

The system is very stable so far, with no break down and no major handling problems (see evaluation section).

Content

There is a wide range of content on the platform, from simple organisational support information, documents, podcasts, videos up to entire virtual courses. We do not judge the one or the other better or worse. The crucial aspect is the embedding and the meaning of the content elements in the respective seminars and the appropriateness for a specific teaching objective. The project team supports the teachers in the creation of the content, may it be a video or a virtual course.

Communication

Communication is essential in teaching and learning, even more in technology enhanced settings, and we do not support any teaching activity which is not embedded in a communication or collaboration environment. Due to economic reasons and due to flexibility and efficiency, we advice our clients to opt for asynchronous communication approaches like fora or wikis. Chat is an option for specific broadcast events with low interaction needs and reduced deepness.

Juridical aspects

There is a strong need for juridical advice which the project provides, especially in the area of eExams. If juridical aspects are not considered carefully, exams may be invalid or may provoke legal disputes. Therefore, every new eExam attempt is reviewed in juridical aspects beforehand.

Juridical advice is equally important for the standard LMS, since copyright restrictions are very rough and the management of rights and rules has to respect personal data protection. Moreover, the distributed rights and rules may lead to conflicts in the departments and need full transparency and good knowledge of the department dynamics.

Strategy

When implementing the University learning and examination environment, we applied the following strategic principles:

Role of stakeholders

Before starting, it is absolutely needed to know the important players concerned. It is not recommended, to start this kind of initiative without the support from the University lead. This support makes communication much easier and opens doors. On the other hand, it is good to know, who else is active in the field and to look for early contact and cooperation.

This approach leads to a smart mix of top down and bottom up perspective. The support from the hierarchy is needed - but it is not sufficient. Without commitment and cooperation from the side of the users, the deployment will be very difficult.

At this point, the question of pressure versus voluntariness emerges. We did not ask for any pressing support from the University head, on the contrary: The support team was prepared to convince with openness, communication, incentives, and personal, immediate support. This approach worked out very fine and we felt no resistance, on the contrary very good mood and cooperative spirit.

Inclusion of users

From the beginning, the users – students and teachers – have been regarded as active partners in a common activity. This leads to the following consequences:

- The technical development is user led, this means that the users' ideas are discussed with them and with other users, prioritized and accordingly realized;
- regular formative evaluation rounds are offered to the users in the spirit of continuous improvement and the proposals for improvement are considered seriously;
- a personalised one stop shop allows, in contrast to ticket systems, the individual follow up of each case, with clear responsibilities and personal commitment until the end of the support loop;
- in a decentralized approach, administrative responsibility is given to the users for a denominated area. This is economically meaningful and leads to the feeling of inclusion.

Respect of autonomy

This is a crucial point in University environments. Teaching and research takes place in an atmosphere of freedom and independence. The teachers must have the confidence that the individual space is respected and that such a technical system does not limit the freedom of scientific action, but, on the contrary, allows for additional didactic options and organisational relief.

Current use

Regularly, a survey is carried out amongst the teachers on their style and habits of usage. These are the most recent results:

There is a very intense use of the LMS from all faculties of a full scale university. Depending on the faculty, between 65% and more than 80% of the teachers use the environment, with exception of the medical faculty which has a distinct system, but also here, more than 35% use the University LMS.

About 90% of the participating users visit the LMS at least once per week, 40% every day.

They have about 7.000 courses running and established about 3.000 groups.

Within the courses, a large variety of media elements can be found. With nearly 100.000 stored files, the provision of course material is predominant. Largely behind follows the provision of link collections and of fora with nearly equal numbers (about 1,800). About 900 eLearning modules are available for the students which allow for self study. The number of tests and surveys amounts to about 500 each. Chats, wikis and glossaries range among the less frequent objects (about 300 each).

The analysis of the reported data shows that collaborative and interactive teaching activities are not (yet) really frequent. But we are far from judging this situation as good or bad. The didactic value the different learning objects depends on the embedding of the elements in the course setting. If provided course material is embedded in smart communication and self regulated activities, the results can be on a very high level. Further analysis is needed (and we are starting to carry it out) about the teachers' and students' considerations in this respect and about the very effects.

Nevertheless, in our support and consultancy activities, we try to stimulate students inclusion approaches; on the other hand we see, that inclusive teaching is very demanding and needs strong tutoring and monitoring effort.

Appreciation of the LMS

We have been asking what teachers like most in the University LMS offer. More than one quarter like the facility to make available all types of teaching elements. About 20% like most the communication features and nearly 14% are happy about administrative support through the LMS. The didactic value is put on the first range by only 12% of the participants. This a fact that would need more consideration.

Another question was about the ease of use of the LMS. About 80% report no problem is using the system. In case of questions, most of the teachers get answers from the colleagues. Use of on line help, mail help desk and phone help desk follow in frequency.

Concerning content, about 10% of the teachers provide full scale on line courses; about 90% provide “classical” learning material. About 40% are interested in the use of wikis, but the statistics show much less implemented wikis. With about 40%, there is also high interest in video capturing of courses.

The support service is judged as very friendly, competent and fast. Nearly all users which have used the support offers, give excellent marks. The same is true for the intuitivity, the performance and the stability of the LMS.

The teaching related use of social media outside the platform is very limited. Here, flickr and YouTube count among the most frequent entries. Astonishingly, only one quarter of the teachers use smart phones.

References

[1] Kerres 2007, Strategische Kompetenzentwicklung und E-Learning an Hochschulen in: Baumgärtner, P & Reinmann, G. (Hrsg) Überwindung von Schranken durch E-Learning. Innsbruck, Studienverlag, p.1