



## Applying Moodle to continuing professional development. “Old” contents in a new container?

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### **Abstract**

*The paper analyses the delivery and outcome of a workplace blended learning course, and the way the tool chosen – Moodle – influenced the content presented. The technological features and challenges are described in detail by a member of the E-learning Staff.*

*The experience of an English course for in-service librarians at the University of Padua (Italy), whose main purpose was to help librarians with advanced level of English knowledge to improve their writing skills and to participate in International events, proved to be fruitful both for the level of collaboration reached and for its reduced weight on the work schedule.*

*I am very glad to be here today and I heartily thank the IFLA Continuing Professional Development and Workplace Learning Section for giving me this opportunity.*

*I am going to describe the way the use of Moodle Learning Management System (LMS) could improve a workplace learning experience, bringing as an example an experience which took place in Italy at an academic library last winter.*

*First of all, I would like to describe the situation in which this project was brought about.*



## Librarians demand

- Technical English courses to:
  - Enable them to assist foreign users
  - Communicate with libraries abroad
  - Use the Internet and e-resources more effectively
  - Read professional publications

In Italy in recent years there has been a steady demand for English courses on the librarians' side, as proved by many surveys led by various AIB (Italian Library Association) regional chapters<sup>1</sup>. A large part of Italian in-service librarians did actually study English as a foreign language at high school or at the University; unfortunately since then most of them have had few opportunities to practice English at work, therefore they feel inexperienced when it comes to giving non-Italian speakers the same qualified assistance they give those who speak their language.

Furthermore, librarians wish to be more confident when communicating with foreign libraries and vendors, and to be able to take advantage of the information circulating on the Internet and through e-resources, which is mostly in English.



## Background

- Increase in the number of foreign residents in the country
  - Census statistics (ISTAT):
    - 1.356.590,00 in 2001
    - 2.670.514,00 in 2005
- Increase in study mobility (EU programs)
- Growth of e-publishing and the Internet

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The growth of foreign residents in the country<sup>2</sup>, along with the spread of EU (European Union) mobility programmes for students and teaching staff<sup>3</sup> have greatly increased the rate of foreign readers using both academic and public libraries.

Besides, the Internet and the development of e-resources offer a huge amount of information mostly available in English.

For all these reasons, during the past 6-8 years, the AIB (Italian Library Association) has often organised courses focused on English for librarians.

During the teacher's previous experience the courses had been organised as two-day seminars. The response of the participants had been enthusiastic, but one of the main

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<sup>1</sup> Surveys on Instructional needs were given in many regions (Veneto, Friuli-Venezia Giulia, Marche, Sicily). As an example, see the survey led in Sicily in 2001 and 2004, and published at:

<http://www.aib.it/aib/sezioni/sic/qu200109.htm> and <http://www.aib.it/aib/sezioni/sic/qu200402.htm>

<sup>2</sup> According to ISTAT (Italian Central Statistics Institute) data, the number of foreign residents in Italy grew from 1.356.590,00 in 2001 to 2.670.514,00 in 2005. ISTAT. "Demografia in cifre". 15 May 2007.

<<http://demo.istat.it/>>

<sup>3</sup> E.g. Erasmus, Socrates, Tempus.

concerns was that little would remain of those two days once the librarians got back to their daily work, unless they were immediately faced with a problem requiring that kind of expertise. Therefore, from the third edition on, the course had been integrated with a follow-up, generally via e-mail, where the teacher asked the participants to prepare a description of their library services using the language they had learnt during the seminar. This solution gave better results, but still the teacher had to struggle between the limited time that could be reserved for in-service training and the long time and practice required for effective language learning. Furthermore, even if e-mail learning proved to be effective, still it is “one-dimensional”, whereas Dale<sup>4</sup> had showed that learning is enhanced when the mind is engaged with multimedia materials.



## Course aims

- Assistance to foreign users
- Writing an English library website
- Improving writing skills in order to:
  - Participate in international events
  - Prepare academic papers
  - Prepare EU projects

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Answering the same need, the University of Padua CAB (University Library Centre) decided to organise a similar course for a group of their in-service librarians.

The aims of the course were not only the above mentioned –that is to help foreign visitors find their way in the library- but also to enable librarians to improve their speaking and writing skills in view of their participation in International conferences, their contributions to international journals and the preparation of EU projects.

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<sup>4</sup> Dale, Edgar. Audio-Visual Methods in Teaching. New York : Dryden Press, 1951.



## Organisational issues

- Necessity to stretch language learning over a longer period (60 hours in 3 months)
- Difficult for participants to be absent from work
- Differences in language levels

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Each one of these different issues could easily have been the subject for a separate course: it was not easy to organise the contents so as to provide meaningful lessons; in any case the advantage of working with a set number of participants from the same organisation made it easier to focus on particular aspects according to their response.

It was therefore decided to offer a learning experience which would be stretched over a longer period of time.

As the participants are all employed at the same University, though in different libraries, the schedule was very carefully planned in order to avoid the absence of a great number of librarians on the busiest days of the week, and the calendar was known well in advance.

Another point to overcome was that participants had been chosen on the basis of their roles and needs, and had not taken any language test. Consequently there were different levels of understanding and speaking: the levels ranged from lower intermediate to advanced.



## Solution

- Blended course
  - 4 workshops over 3 months' time
  - Online activity during the in-between time
- Teacher has little knowledge of html and no programming skills or abilities
  - Moodle
    - <http://moodle.org>

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It was decided that the course was going to be delivered in a blended mode; it was going to be broken up into three two-day workshops followed each by about four weeks' distant learning, and a final day to draw the conclusions. This schedule offered the double advantage of reducing the impact of the course on the participants' working time and to stretch the delivery of the contents over a longer period, thus leaving people the time to consolidate the materials presented.

Previous experiences had demonstrated that a face-to-face workshop is a good way to create a collaborative environment, where the teacher has the responsibility to present stimulating materials and to keep the discussion lively. He/she acts as the catalyst of the learning process, which is centred on the student and is based on collaboration among students.

It was easy to decide to deliver part of the content in a conventional classroom: the question was how to make the intervening periods as collaborative and fruitful as the classroom activity, also considering the fact that the teacher computer skills included using the most common software programs, but no programming ability and very little html. In recent years the University of Padua had been developing a Moodle platform, which was offered as a tool for distance learning periods.



# E-learning Instructional Design

- M. David Merrill, “First Principles of Instruction”  
*“the most effective learning environments are those that are problem-based and involve the student in four distinct phases of learning:*
  - (1) activation of prior experience,*
  - (2) demonstration of skills,*
  - (3) application of skills*
  - (4) integration of these skills into realworld activities”*

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In order to plan a workplace course it is necessary to keep in mind the aims –that is the content which is to be delivered- and the participants’ characteristics.

According to Merrill,

*Many current instructional models suggest that the most effective learning environments are those that are problem-based and involve the student in four distinct phases of learning: (1) activation of prior experience, (2) demonstration of skills, (3) application of skills, and (4) integration of these skills into realworld activities. [...] Much instructional practice concentrates primarily on phase 2 and ignores the other phases in this cycle of learning.”<sup>5</sup>*

Merrill applied these principles to the analysis of various e-learning instructional programs, all of which proved to have put into practice some of these principles.

Notwithstanding their differences, these models share the stress they lay on the role of evaluation in planning. An instructional program cannot be simply planned on a blank page and delivered; evaluation and tests need to be carried out continuously, so as to facilitate a constant revision process. This way it can be possible to tailor the planned instruction to the participants’ needs.

When speaking about e-learning, it is obvious to think of new technologies. Yet, the main difference between e-learning and distance learning is actually the fact that the teaching is student-centred and it is based upon sharing and collaboration<sup>6</sup>. In a successful e-learning experience, the sum of the knowledge circulating in the course is superior to the sum of the knowledge of the participants.

In the case of this course, the teacher prepared beforehand a path to follow and a large amount of material which was uploaded on Moodle; the timing in the material presentation depended upon the way the participants responded.

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<sup>5</sup> M. David Merrill, “First principles of instruction”. *Educational Technology Research and Development*, 2002, Vol. 50, No 3, p. 43. 15 May 2007. <<http://id2.usu.edu/Papers/5FirstPrinciples.PDF>>

<sup>6</sup> Quoting...?



## Problem: course aims

- Library language
  - Description of library services and facilities
  - Description of the Librarians' job
- Evaluation of Websites
  - How to clearly convey information on the web
- Writing skills
  - Academic English standards

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In order to create a problem-based learning environment, the themes chosen were close to the participants' instructional needs and professional interests.

The content to be delivered included the terminology used to describe the library, its services and facilities, and the librarian's job.

Furthermore, a presentation of various web sites and an analysis of the sites according to given criteria were intended to stimulate the discussion on the communication of library services.

In addition, work on grammar and syntax, and more common mistakes, both in spoken and written English, and an introduction to the principles of Academic English writing were planned<sup>7</sup>.

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<sup>7</sup> For this part the author thanks Anna Csaki, English language teacher at the University of Trieste.



## Activation of Prior Experience

- Introduction to Library terminology
  - Material prepared by the teacher
  
- Interviews on personal experience
  - 70% of participants had at least 10 years' working experience

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In order to activate existing knowledge, contents needed to be delivered keeping in mind the characteristics of the participants, who were experienced professionals with specific instructional needs. The teacher had to make the first choice regarding what materials/language to present and how, and the first workshop was mostly spent introducing the vocabulary to speak about library and library services which is functional to the construction of a web site.

Much time was spent doing structured exercises together, so as to try and stimulate the participants to talk about their work experience, and to make comparisons with other libraries –which were introduced by reading their web sites and listening to real podcasts, thanks to the support of the Leeds University Library<sup>8</sup>.

The participants were asked to describe their own libraries, therefore they could activate their English skills by means of their workplace experience. Another advantage was that, by analyzing other libraries' sites, they were able to critically think about the usability of their own.

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<sup>8</sup> Leeds University Library. Podcasts. 15 May 2007. <[www.leeds.ac.uk/library/podcasts](http://www.leeds.ac.uk/library/podcasts)>

The podcasts use has been authorized both by the University Librarian and by the firm responsible for their production (Acousticsguide Ltd.).



## Activation of Prior Experience

- Moodle used as a repository for material to be both printed and used online



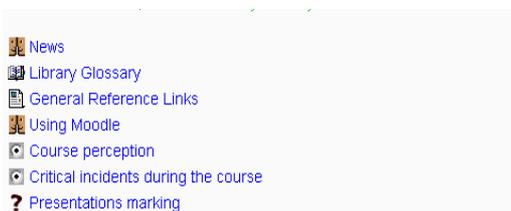
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Moodle was, first of all, used as a repository to download the printed material the students needed for the workshop. On the very first morning a proper introduction of the platform and its utilities was given by a member of the University E-learning Staff. From that moment on, Moodle built up the environment in which the participants could follow their course, whether it was during the face-to-face workshops, supported by the facilitator's encouragement, or during the distance learning break.



## Activation of Prior Experience

- Moodle also used
  - To collaboratively create a glossary
  - To gather feedback from the participants



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Among Moodle activities there is a glossary module: this tool was very useful to stimulate the participants to give short definitions of words and concepts related to the library world. They were continuously encouraged to write without worrying about grammar and syntax; yet, as the glossary entries could be validated by the teacher before being made visible for everybody, they actually obtained relevant feedback and could learn from their mistakes.

Students' feedback contributed to evaluating the course performance and to shaping its syllabus. A questionnaire was proposed after the first workshop, and two surveys after the third. The former aimed at a more in-depth understanding of the librarians' experience and to check if the course met their expectations, the latter were more focused on evaluating particular aspects of their learning experience.



## Demonstration of Skills

- Teacher speaking
- Reading of printed material
- Analysis of library websites
- Listening to library podcasts

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According to Merrill,

*Learning is facilitated when the instruction demonstrates what is to be learned rather than merely telling information about what is to be learned<sup>9</sup>*

The skills to be learned were demonstrated directly during the face-to-face lessons by the teacher speaking, by reading printed and online material, by listening to library podcasts and other audio material.

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<sup>9</sup> Above, p. 6



## Demonstration of Skills

- Moodle used to create a list of useful links



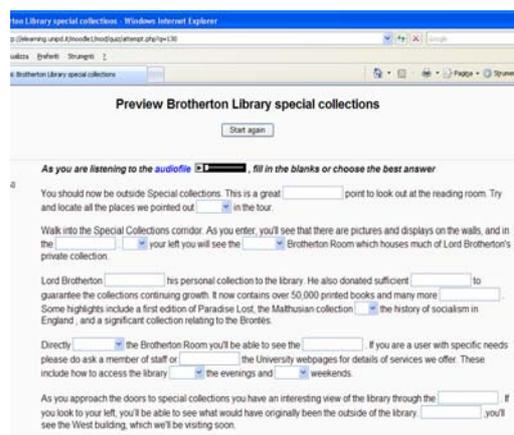
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Demonstration of skills continued during the distance learning period through the LMS. Moodle was used to create targeted Virtual Reference Desks both for online resources for general reference and for specific sites describing libraries and library services. The latter were analysed through a grid prepared by the teacher, and this material led to an interesting discussion on the forum.



## Demonstration of Skills

- Moodle used to build up listening comprehension
  - Brotherton Library – University of Leeds



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An effective way to present audio or video material was to include it into a quiz, and thus create a comprehension activity. The amount of material uploaded on Moodle made it easy for the teacher to follow a more flexible schedule in response to the feedback the participants gave to each activity.



## Application of Skills

- Practical simulations of everyday situations
  - How to... ?
- Preparing maps
- Expressing opinions and supporting one's point of view

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It was crucial to apply the new skills to real situations, therefore the participants were asked –in group or one at a time- to answer questions made by hypothetical users, to prepare basic maps to their libraries and so on.

In addition, the teacher asked them to work in groups and prepare a visual map where they were to try and organise a series of concepts regarding electronic resources that had emerged during the face-to-face debates. Each group was later asked to present the reasons why they had made certain choices to the others. As the ideas they had expressed were directly linked to their professional experience, the participants motivation in trying to support their point of view was high; therefore the debate ensuing from the presentations was very lively.



## Application of Skills

- Moodle Wikis
- Moodle forums



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A similar involvement would have been difficult to reach on a distance-learning basis. Furthermore the class experience built up the basis to continue to work collaboratively online: the issue was to find the right tools.

For this reason, in addition to writing for the above-mentioned forums, participants were asked to start writing collaboratively in a wiki, whose aim was to become a template for a basic web page for all university libraries.



## Integration

- Groupwork (writing a paper)
- Preparing a library webpage
  
- Moodle used for collaborative writing
  - FORUMS and WIKIS

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As soon as certain requirements seemed to have been met, the participants were asked to work in groups and collaboratively write a paper on a given subject. The introduction to this task was given during a face-to-face class, so that the teacher was able to answer their questions and clearly define the task. For the preparation of the paper, the students were asked to work on Moodle wikis and use forums for any kind of discussion.

The teacher used the forums to break the writing task with specific deadlines, asking the participants to answer certain requirements by a certain date, thus helping them to find the time to write notwithstanding their daily tasks.



## Practical outcomes

- Template for the University library web site
- Preparation of printed library guides
- Presentation for an International conference

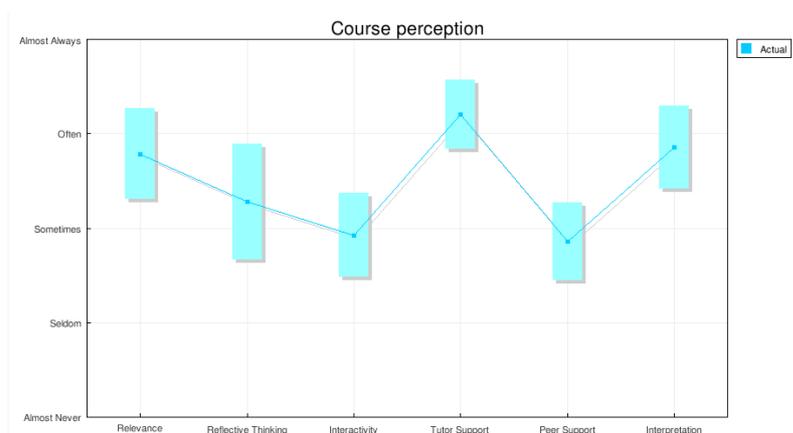
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The concrete results of this course were a template which can be used by all of the University of Padua libraries to prepare an essential web page. Furthermore, all the participants wrote an html guide for their own libraries. Some of them also prepared printed guides or had their former English guides improved.

The project also led to group presentations of papers on different subjects and the simulation of a conference in an international setting.



## Participants' feedback



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The participants' feedback was easy to gather thanks to Moodle tools. First, the participants were asked to fill in a questionnaire prepared by the teacher.

Later, two surveys were selected among Moodle in-built series, which basically belong to three categories: COLLES (Constructivist On-Line Learning Environment Survey), ATTLS (Attitudes to Thinking and Learning Survey) and Critical Incidents (investigating relevant episodes). In this course the first and the third kind were given.

The COLLES is

*a set of 24 statements that asks students about the relevance of the course, provides opportunities for reflection and interactivity, provides peer and tutor support, and facilitates interpretation. These factors are based on social constructivist theory [...] the actual COLLES survey asks them how they are interacting currently. [...] The Critical Incidents survey asks students to consider recent events and answer questions about their relationship to those events.*<sup>10</sup>

The results of the COLLES survey demonstrate that the participants were satisfied with the course. However, through careful examination of the answers, it appears clear that the model can be improved.

The highest ratings are given to relevance, yet looking in detail at the answers it seems that the content delivered is more relevant to professional and personal interests than to professional practice. This can be explained because not all participants had the same working tasks and experience, therefore some of them were bound to be less involved at some time, depending upon the specific issue.

Tutor support obtained the highest rate, and also interpretation – that is, understanding and being understood- is rated quite high. On the other hand, peer support and interactivity touch the lower points – though the lower values still reached the “sometimes” level. This could mean that people like to listen and to be exposed to language more than they like to speak, but also that the activity could be improved by breaking it up into smaller activities and making it more necessary to communicate among peers.



## Participants' feedback Improvement for the course

- More relevance to everyday interests
- Increase participation to planning and evaluating
- More in-depth instruction on Moodle use

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<sup>10</sup> Jason Cole. Using Moodle : teaching with the popular open source course management system. Sebastopol, CA : O'Reilly Community Press, 2005, p. 188

The critical-incidents survey revealed that people greatly appreciated Moodle activities. They felt most involved as learners during Moodle activities, especially the listening comprehension exercises, whereas they felt most distanced when the issues treated –even during face-to-face sessions- were less directly connected to their specific job.

On the other hand, they all seemed to be quite satisfied with the forum activity; most of them declared that the others' posts were helpful, interactive, stimulating.

Actions which they found puzzling or confusing were admittedly connected with the scarce habit of working with this kind of tools. This could be improved in future courses by making a longer and more specific introduction to Moodle use before starting. Nevertheless, everybody was able to work satisfactorily with the forums.

Interactivity could also be enhanced by preparing more activities which imply planning and evaluation, as these proved to stimulate critical thinking and discussion among peers.

The tools used, along with the teacher's interaction, contributed to building up a learning community, where the learning, though stimulated by the teacher, was student-centred and based on interactivity and collaboration. These librarians, who had been working together for years, yet had different competences and working experience according to their tasks, learned from each other and developed different bonds.

To put it in the words of one of the participants:

*"I got to know my colleagues differently: you hardly get a glimpse of their "mentality" when you just sit and listen to them during a course, but when you have to write extensively about something (e.g. a paper)... you really get to know one's strengths and limits.."*



## Advantages of Moodle

- Building a community
- Freedom of choice in time and space
- Possibility to do and re-do exercises
- Possibility to check the materials
- Active practice

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On the whole it could be said that the course succeeded in creating a community. Though these people already made up a workplace community, here they met in a different environment and got to know each other in a different way. They developed a set of habits, rules and standards for communicating which were different from those they used in their everyday practice.

During the distance learning phases people had complete freedom of choice in time and space, they had the chance to do and re-do exercises and to check the material discussed in

class. They were also able to actively put in practice what they had learnt during the workshops



## Next project

- One-day meetings on specific subjects at the University of Triest
  - Moodle should be used to introduce the subject online
  - Face-to-face workshop
  - Moodle used for discussion (forum-wiki)

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As a result of this experience, the next project will be to use Moodle for workplace learning at the University of Triest.

Here, over the past few years, English courses for librarians had been held first as general English courses, then focusing on Library terminology. Therefore, the time is ripe to build up on that experience.

The University of Triest recently decided to implement a Moodle e-learning platform, therefore the LMS will be used for online presentations of material on specific issues, which will be then discussed during one-day workshops. The follow up of this work will be developed using tools for collaborative work such as forums and wikis.

### Conclusion

A successful learning experience is carefully planned by keeping in mind what has to be taught, to whom and for what aims. The e-learning experience focuses more on the collaborative aspects of learning than on the unidirectional delivery of information/skills on the teacher's side. In other words, the instructional goals are being achieved in a different way.

The use of Moodle permitted the communication of the traditional ("old") contents in a completely new way. In fact, after the initial stage where the teacher introduced new language and vocabulary, and pointed out some common problems, the course went on in a collaborative environment, where the participants were asked to solve problems working in wikis or in forums. This way they were able to activate their existing knowledge and to apply the new knowledge demonstrated by the teacher and favour its integration. The feedback allowed the teacher to constantly reshape the course and tailor it to suit the most pressing needs which emerged during the learning process.

This model can be most successfully applied to workplace learning, as in this setting it is easier to find people motivated to learn by the proximity of the issues to their working experience.



## What Moodle is

- A Learning Management System
  - Aggregate materials and collaborative services in one space
  - Tracking of students' actions, history
  - Facilities for tutor-student communication
- Open source and modularity
  - Customizable according to needs

What is Moodle exactly? Moodle is an open source Learning Management System (LMS), which means it basically makes it possible to organise materials into separate spaces, called courses, and to enrol students on them.

Being a system dedicated to management of distance learning instruction over the Internet, it offers standard services like user authentication, and tracking of the students' actions; furthermore it offers tutors an easy-to-use dynamically generated interface, for which no programming skills are needed. The tutor is free to organise and manage the course area, can upload any materials, and can view reports about students' activities.

But with Moodle much more can be done: materials can be interleaved with collaborative activities, like forums, wikis, quizzes and various types of assignment. Materials and activities uploaded into the same course can be updated or modified by the tutor day by day, according to the course needs. The tutor can monitor the students' responsiveness and can receive notification of students' posts or submissions by e-mail. He/she can reach single users by an internal messaging system, and the students are notified in case there have been changes since their last login, or in case a submission deadline has been set.

Moodle has a modular architecture, therefore it is easy to endow the platform with new features, choosing among the additional modules which are being continuously developed by the Moodle community.

The system was chosen 5 years ago by a group of e-learning specialists at the University of Padua, in order to offer technological and methodological support to those teachers who wished to transfer their courses from a traditional classroom-based to a blended or distance-learning scenario. The reasons for the choice were the vast community behind Moodle, the pedagogical orientation and the effective technical design of the platform



## The Moodle philosophy

- Moodle community: not only technicians but also educators and trainers
- Constructivist approach
  - Collaborate, create, share
  - Knowledge grows on people interaction
- A couple of tools to stimulate and manage collaboration

The Moodle community is made of technicians and educators. The platform was *designed using sound pedagogical principles, to help educators create effective online learning communities*<sup>11</sup>

It is based upon

*a social group constructing things for one another, collaboratively creating a small culture of shared artifacts with shared meanings*<sup>12</sup>.

The focus of Moodle philosophy is on the collaboration and group creation of artifacts, which may be elaborated documents, wiki pages, or forum posts. The learning process becomes particularly effective when learners are asked to construct something for others to experience, and knowledge originates from interaction.

Obviously this approach can only be effective if the collaboration is tailored to the learning situation, and focused on the acquisition of desirable knowledge and skills. For this reason, Moodle was designed by educators as a platform that can offer the tutor all the tools he/she might need to stimulate, control and manage the learning process and the evolution of knowledge in the course students' group.

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<sup>11</sup> From the definition in the community homepage, at < <http://moodle.org/>>.

<sup>12</sup> In "Philosophy – Social constructivism", found at < <http://docs.moodle.org/en/Philosophy>>.



## Technical challenges

- Integrating mp3 audio in Moodle
  - Flash mp3 player seamlessly integrated into exercises text
  - Transcoding audio files
- Managing mistakes in user profiles
- Enrich the platform to integrate YouTube videos

The methodological approach was undoubtedly the first asset of the course. This was enhanced by the possibilities offered by the technological platform to perform some interesting tasks.

One of the challenges was to develop a seamless mode to propose audio narration that could be integrated into a forum post, exercise text or other places in the platform. In Moodle it is possible to replace every link to an mp3 file by a small mp3 player realized in flash. This seemed to be the best choice; unfortunately some mp3 files processed this way sounded too fast. The problem was in the frequency rate of the mp3 codification, which the flash mp3 player is unable to recognize. Therefore, the E-learning Staff used a tool to transcode the audio into a supported frequency rate. At the same time, the size of the audio files was reduced by encoding them with a lower bit rate, yet maintaining the same sound quality.

Another problem was that some of the participants started to experience various problems with wikis and other tools that did not seem to work properly; it turned out that the reason was they had inadvertently changed a few parameters in their personal profile. Once the cause of the problems was discovered, it was easy to find a solution, yet it took some time to analyse the situation.

Furthermore, the Staff started working on the idea to seamlessly integrate some YouTube videos on the platform. This plan would have opened the possibility to experiment a new module with this functionality, but this unfortunately never migrated to the production server, because at that moment other systemic maintenance had been scheduled.



## Technical improvements

- Better audio integration
- Integrate Moodle with external information sources
  - YouTube videos
  - Web 2.0 software
- Effective use of other Moodle tools
  - Blogs
  - RSS feeds

The experience, and the technological changes that were faced, led to some ideas for some future technological improvements.

The upload of audio files could be improved by modifying the mp3 flash player code, or alternatively by organising a service which will enable tutors to transcode the audio files to correct frequency and bit rate on the web.

Another improvement could be the seamless integration with external sources like YouTube videos, but more interesting would be the integration with some Web 2.0 software that could set the learner into a wider and more informal context. The interaction of Moodle with Web 2.0 software could stimulate the tutors to experiment new course structures and new learning flow design.

Moodle platform is rich in tools, and some of these could be used more profitably; an extensive experimentation with Moodle blog and blog tag system would be very appreciated in courses aimed at developing learning communities. Another interesting tool, especially in the case of in-service participants, could be the use of RSS feeds that Moodle can easily create from forum posts or from glossary entries. That way the course space would become more suitable for the necessity of a post-course professional community of practice.