



UNIVERSITAT
POLITÈCNICA
DE VALÈNCIA

CAMPUS D'ALCOI



TRAINING OF TRAINERS

UNIVERSITY AND INDUSTRY FOR THE
MODERNISATION OF TEXTILE
MANUFACTURING SECTOR IN BELARUS

UPV TOOLS and METHODOLOGY for e-LEARNING

1. UPV TOOLS for E-LEARNING

1.1. POLIFORMAT

POLIFORMAT is the UPV e-learning and e-training platform where UPV professors and students share any kind of information about their university subjects. The platform possesses very useful tools in relation to every particular subject: contents, tasks, announcements, exams, forum, chat, etc.

The professor utilises the platform as a subject repository: helpful and functional information to enhance students' learning. Contents are uploaded in the directory or the folder 'resources' and the professor-students communication is kept by using e-mails and the tool 'announcements'.

The access to POLIFORMAT is obtained by using your private student's or professor's identification. Once you have been identified and you are in your private UPV site you choose the corresponding subject and academic year. Only the students attending the particular subject and the corresponding professor or professors have access to that subject platform.

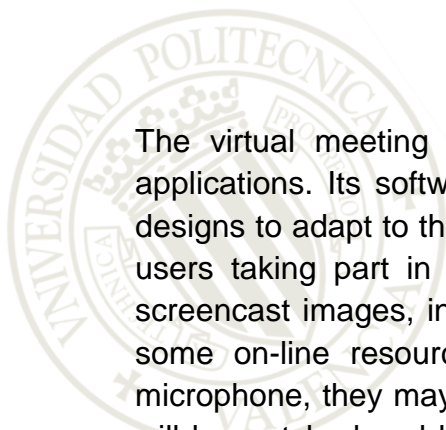
1.2. POLICONECTA

On-line e-learning resource between professors and students which uses the ADOBE CONNECT software. **POLICONECTA** is a video conferencing software that includes some tools to improve communication.

At present, POLICONECTA is used by UPV on-line teaching to hold virtual interactive lessons, virtual tutorials and dynamic on-line meetings.

POLICONECTA resource uses a virtual meeting classroom tool. Using computers, the students can follow the professor's audio and video live, simultaneously to the contents taught in the classroom resources (video, PowerPoint, diagrams, graphics, etc). Besides, students can use the CHAT tool to communicate and exchange information with the other students.

UPV TOOLS and METHODOLOGY for e-LEARNING



The virtual meeting classroom tool has different windows for diverse applications. Its software allows choosing among a variety of classroom designs to adapt to the specific subject. Through these virtual classrooms, users taking part in the session meeting can share tools, documents, screencast images, interactive digital boards, audio and video as well as some on-line resources. If the students can use a web cam and a microphone, they may actively participate in the meeting classroom. They will be watched and listened live by the other students taking part in the meeting.

The tool operation and its interface are very simple. The virtual meeting classroom site is an URL (Uniform Resource Locator: a website address). This is provided to the students by the professor to start the meeting. The students or users attending the virtual meeting only need the following minimum requirements: a computer with Internet connexion and Flash[®] Player 8 software (or an upper version) installed.

1.3. POLITUBE

POLITUBE is a video repository, similar to the worldwide known 'YouTube', customized to Universitat Politècnica de València users. This tool is being utilised for publishing contents in video format which have been elaborated by UPV's teaching staff.

This service offers several advantages such as its image quality and access control.

The purpose of POLITUBE tool is the video publication of all the university activities by UPV's professors, technicians, and researchers.



2. E-LEARNING TRAINING METHODOLOGIES

The Universitat Politècnica de València proposes diverse e-learning training methodologies. These can be classified in three categories:

- 2.1. Learning items
- 2.2. Training modules
- 2.3. Open Course Ware subjects

2.1. LEARNING ITEMS

This is the minimum digital format learning unit that can be reused. Taking into consideration the reuse purpose, the learning item cannot be contextualized. Therefore, no mention or reference to the subject topic index or time chronology can be made.

The learning items are produced in digital format and they have a pedagogic purpose focused on easing the students' learning. Its contents must be indivisible and at the same time independent, so it can be reused in different learning contexts.

These learning materials are stored and referenced in the UPV **POLITUBE** repository, so they can be used by the UPV community members (restricted access) or by everybody (free access).

Examples of the potential **LEARNING ITEMS** applications are:

- Revision of previous contents.
- Catching students' attention during the lessons.
- Focusing on the main ideas of a speech lesson.
- Important information storage.
- Saving time.
- Helping with concepts or contents understanding.
- Additional information for learning processes.
- Clarifying previous errors or mistakes.
- Example explanation of a process.
- Motivating students' autonomous work.

More complex learning objectives can be reached linking several **LEARNING ITEMS**. As a result, these can become **TRAINING MODULES**.

2.1.1. POLIMEDIA RECORDING

UPV learning item designed for the elaboration of multimedia contents. The entire process includes from the preparation of the learning materials to the broadcasting through different channels to the final recipients. Dissemination can be made on-line or using other storage devices as a CD, DVD, etc.

A POLIMEDIA RECORDING is a 5-to-10 minute educational video. This shows the lecturer's image and sound synchronised with a screen where the presentation contents are displayed. An interactive-board, a presentation programme or a combination of both can also be used.

The professor's or lecturer's image must take up a significant space of the video screen, simulating a real classroom atmosphere. Consequently, students will feel a pleasant environment to follow the learning contents through the Internet.

2.1.2. SCREENCAST RECORDING

5-to-10 minute educational LEARNING ITEM in video format.

The SCREENCAST RECORDING contents are elaborated through a series of computer screencasts, plus the editing of the lecturer's or professor's voiceover.

The difference between the POLIMEDIA RECORDING item and the SCREENCAST RECORDING is that in this case the lecturer's image is not shown. The student can only watch the lesson's contents and listen to the lecture's voice.



UPV TOOLS and METHODOLOGY for e-LEARNING

2.1.3. DIDACTIC VIDEOS

Illustrative video snippets (approximately between 5-to-10 minute), mostly with action and movement.

The DIDACTIC VIDEO items are made from one or more video camera recordings and its later edition. The video sound recording can be done while filming or added as a voiceover during the video edition.

These video item is commonly used when outside, laboratory or any other specific filming situation is needed. Generally, the didactic videos are used when a particular object, piece of equipment or scenery cannot be available at a POLIMEDIA studio.

Those videos made from computer screencasts and editing the lecturer's or professor's voice, as previously explained, are not considered DIDACTIC VIDEOS but SCREENCAST RECORDINGS.

2.1.4. DIDACTIC ARTICLES

Short unpublished texts in digital format (approximately between 5 and 10 pages long) whose purpose is to help the comprehension of the aforementioned didactic items.

These must fulfil the UPV specific format according to an established template and they are considered as supplementary subject information. They can be consulted at the POLIFORMAT platform of the corresponding subject.

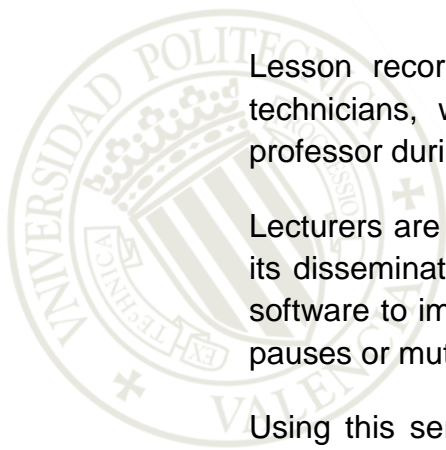
2.1.5. VIDEO-NOTES

Automatic masterclass recording system for teaching periods longer than 20 hours.

By using Opencast Matterhorn software, the audio, video and the computer screen of the lessons can be recorded and filed.

Lesson recordings must be done at the specific classrooms prepared for video-notes recordings.

UPV TOOLS and METHODOLOGY for e-LEARNING



Lesson recording and editing must be carried out by trained technicians, who will give technical support and will help the professor during all the process.

Lecturers are entitled to revise the video recording and decide on its dissemination to the students. They could also use the edition software to improve, cut some fragments from or add some break pauses or mutes to the lesson recording.

Using this service, UPV professors can programme their lesson recording in advance. Afterwards, when the session has been recorded and revised, this will be shown as available in the corresponding subject at students' POLIFORMAT.

2.1.6. LEARNING ITEMS TRANSCRIPTION AND TRANSLATION: POLIMEDIA RECORDING / VIDEO-NOTES

UPV professors have the option to add their subtitled transcription into the professors' languages to their recorded lessons. The languages into which the transcription or translation can be done are Valencian, Spanish and English.

At present, UPV is participating in the European project called EMMA (<http://europeanmoots.eu>) for automatic transcription and translation of audiovisual and textual contents.

The professor receives the automatic transcription / translation of their POLIMEDIA ITEMS / VIDEO-NOTES and it will have to be supervised in order to correct mistakes. This is done by means of an interface which shows in synchronization the video with the transcription / translation.

The time limit of a transcription will be 50 minutes whereas the POLIMEDIA ITEMS / VIDEO-NOTES translation will last 30 minutes.



UPV TOOLS and METHODOLOGY for e-LEARNING

2.2. TRAINING MODULES

Digital training modules are defined as approximately 1-2 hour training sessions of students' work. Their objective is to ease the students' autonomous significant learning about a particular subject.

They can be found in the POLIFORMAT folder called 'contents'. They are built by using its different tools available: contents, resources, tasks and / or exams.

They also include one or several LEARNING ITEMS previously elaborated and are part of the UPV digital repository, or they have been specifically created for this particular purpose.

In the TRAINING MODULES, the sessions will have to be contextualized inside the didactic frame of the subject to which they are referred to, and will have to include the necessary coupling items for the session to have a global sense: introduction, practical activities, summary and evaluation. All the components (LEARNING ITEMS and coupling items) will be integrated in a module inside the contents folder of the corresponding subject.

2.3. OPEN COURSE WARE SUBJECTS SITE (OCW-UPV)

Open Course Ware (OCW) subjects are an example of the modern initiatives which have ultimately emerged to promote the no-limit free access to knowledge. The Universitat Politècnica de València (UPV) is an innovative entrepreneur university who joined this internationally relevant OCW initiative.

OCW-UPV subjects are the ones published at the site containing a set of significant materials associated with the subject (teaching syllabus, contents, tasks, exams and resources).

All these materials used or referenced in these subjects must have free access through the Internet, including the LEARNING ITEMS and TRAINING MODULES used from the repository.

Their contents will be fundamentally developed as didactic units in the section 'contents' of the POLIFORMAT.

The published subjects will have a training duration of over 20 hours.

UPV TOOLS and METHODOLOGY for e-LEARNING

3. NEW DEVELOPING METHODOLOGIES PROPOSED AND TESTED AT PRESENT

3.1. BLENDED LEARNING

Blended learning (BL) systems combine face-to-face (F2F) instruction with computer-mediated instruction. That is, face-to-face and virtual learning.

The definition reflects the idea that BL is the combination of instruction from two historically separate models of teaching and learning: traditional F2F learning systems and distributed learning systems. It also emphasizes the central role of computer-based technologies in BL.

Blended learning is part of the ongoing convergence of two archetypal learning environments. On the one hand, we have the traditional F2F learning environment that has been around for centuries. On the other hand, we have distributed learning environments that have begun to grow and expand in exponential ways as new technologies have expanded the possibilities for distributed communication and interaction.

3.2. FLIPPED TEACHING

In a flipped teaching methodology the students watch teachers' lectures at home and do what we'd otherwise call 'homework' in class. Teachers use recorded video lessons or address students to a video repository, which students watch on their computers, their smartphones or at the school's tech lab. In class they do projects, exercises or lab experiments while the teacher helps and advises students' work.

A flipped classroom is a form of blended learning in which students learn contents online by watching video lectures, and homework is done in class with teachers and students discussing and solving questions together. Teacher interaction with students is more personalized - guidance instead of lecturing. This teaching method is also known as backwards classroom, inverted classroom, reverse teaching, and the Thayer Method.

3.3. MOOC

A massive open online course (MOOC /mu:k/) is an online course aimed at unlimited participation and open access via the web. In addition to traditional course materials such as filmed lectures, readings, and problems set, many MOOCs provide interactive user forums to support

UPV TOOLS and METHODOLOGY for e-LEARNING

community interactions between students, professors, and teaching assistants (TAs). MOOCs are a recent development in distance education which was first introduced in 2008 and emerged as a popular mode of learning in 2012.

Early MOOCs often emphasized open-access features, such as open licensing of contents, structure and learning goals, to promote the reuse and remixing of resources. Some later MOOCs use closed licenses for their course materials while maintaining free access for students.

MOOCs integrate social networking, accessible online resources, and are facilitated by leading practitioners in the field of study. Most significantly, MOOCs build on the engagement of learners who self-organize their participation according to learning goals, prior knowledge and skills, and common interests.

UPV MOOCs: <http://www.upvx.es/>

Example: *Dynamics and Control*

<https://www.edx.org/course/dynamics-control-upvalenciav-dc201x#.VOceduaG9kk>

<https://www.youtube.com/watch?v=sOBAeHEeCUw>

Unite