A MULTIBLENDED SOLUTION FOR EFFECTIVE LEARNING: THE EXPERIENCE OF CONSORZIO FOR.COM.

Dott.ssa Ilaria Mascitti
Head of International Affair and Research Project Department

Dott.ssa Federica Funghi
Project Manager

INTRODUCTION

The Interuniversity Consortium FOR.COM. (hereafter FOR.COM.), recognized by MIUR (the Italian Ministry of Education, University and Research) offers on line learning courses delivered through an integrated learning system consisting of an e-platform, a m-platform and a t-platform.
The FOR.COM. has been developing and experimenting an innovative learning methodology since its establishment in 2004, merging e-learning, m-learning and t-learning solutions.
The choice to set up an integrated system represents the effective combination of different delivery channels, teaching models and learning styles, based on interactive and multimedia communication among all the subjects involved within the educational process.
The FOR.COM. promotes a learning integrated system set up by the Edu C@mpus e-learning platform, the m-learning platform and the interactive television t-C@mpus platform, with the aim to meet the different and various learning needs of the FOR.COM. students and to offer different training paths based on a wide multimedia ICT solution.

1. FOR.COM. LEARNING INTEGRATED SYSTEM

The need to set up and implement a flexible and integrated training model is due, in particular, to the FOR.COM. target: most of all adults learners, workers and highly skilled people and lifelong learners.
Training processes and didactic materials addressed to adult people should consider the "andragogy" theories (Knowles) for a successful adult learning process focusing on adults' typical learning styles and how they learn. The core principles of the andragogy theory state that in order to learn more effectively the adult needs to be involved actively in the training course. Therefore, training has to be deliberately structured for his/her real needs, and furthermore, has to be carried out in a collaborative way. The lifelong learner is viewed from different perspectives: as a student, an information seeker, a member of a community of practice, a problem solver. A lifelong learner usually undertakes all these roles and in the learning process constructs individual and personal knowledge.
Following these considerations, the FOR.COM. highly believes that adult learners could easily create and manage their knowledge through an integrated system promoting a dynamic and flexible learning process characterised by problem solving, analysis, evaluation, creativity, inter-personal communication.
The blended solution promoted by the FOR.COM., focusing on a student-centred learning process, intends to fit the different training needs of the adult learners exploiting and taking advantage of the main benefits of the different learning processes (e-learning, m-learning and t-learning).
The training model promoted by the integrated system of the FOR.COM. is characterised as follow:

- Active and constructive, since it helps the users to be responsible of their own training path;
- Collaborative and interactive, permitting communication among the learners;
- Dynamic and flexible, thanks to the converge of different platforms and media.

Let's go further in depth each learning process promoted by the FOR.COM. integrated learning system (FIG. 1 - THE FOR.COM. INTEGRATED LEARNING SYSTEM).

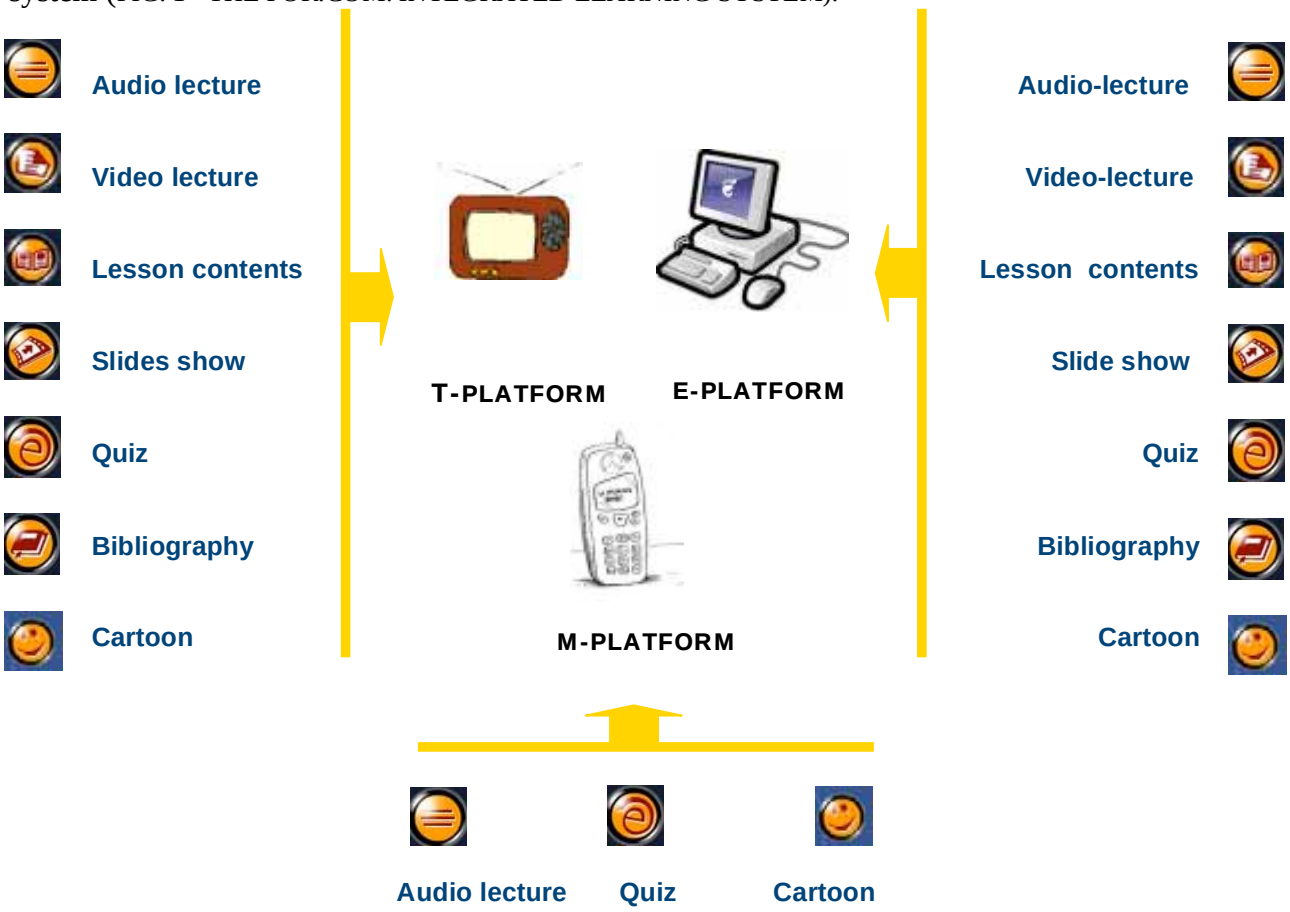


FIG. 1 - THE FOR.COM. INTEGRATED LEARNING SYSTEM

2. FOR.COM. EDU C@MPUS e -PLATFORM

The FOR.COM. Edu C@mpus platform is a flexible and personalised Virtaul Learning Center (VCL), able to ensure an interactive learning process in a synchronous and asynchronous way. The e-platform, accessible through a personalised user id and password, promotes tailored and flexible training paths, fosters collaborative learning among the users, encourages interaction among the users by means of asychronic and synchronic interaction tools supervised by a tutor.
The FOR.COM. e-platform allows to realize a flexible learning process answering the dynamic training needs of the adult learner who asks to be the protagonist, the "manager" of his own formative process, the active constructor of knowledge.
The FOR.COM. e-platform consists of different scenarios:

- Administrative Services
- On-line courses
- Tutoring

2.1 ADMINISTRATIVE SERVICES

Through this section each student is allowed to enter a set of services to gain information on the different courses offered through the e-platform:

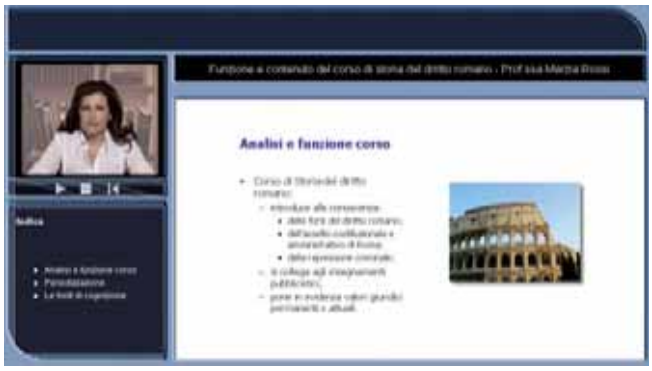
- Courses curricula
- Test and quizzes deadlines
- Edu meeting appointments
- Institutional news

- Technical help

This section is a kind of Edu secretariat allowing the user to find out useful information without any time and space constraints.

2.2 ON-LINE COURSES

The on-line course is made up by different Learning Objects. The audio/video lectures represent the focal point of the training path (FIG.2 AUDIO / VIDEO LECTURE). The user who accesses the digitised video lectures, thanks to a user-friendly screen that displays commands (start, stop, forward, back), is be able to manage the lesson in a customized way.



A useful support is represented by the slides, synchronized to the video lesson which allows to synthesize the topics through key-words and by using images, patterns, diagrams and tables. An advantage of using synch slides, consists in the possibility of guiding the user's attention.

FIG.2 AUDIO / VIDEO LECTURE

The most important and most innovative features of the FOR.COM. digitised video course are the following:

- the modularity of the contents that allows the students to access a specific level of the contents;
- the indexing of the subjects that promotes a "hyper textual learning"; in this way, indexing has the function of a "cognitive map" that shows the users the different didactic paths.

Hyper textual learning improves cognitive processing because it resembles the natural way of thinking of the human mind, since there exists a substantial analogy between the typical network of links of an hypertext and the working of the human mind, meant as a neural network. Hyper textual learning leads users in their dynamic exploration, presenting them a non linear knowledge, made up of interweaving and connections among links. For these reasons, hyper textual learning processes allow FOR.COM. students to customize the training processes, to enrich and improve the meta-cognitive strategies, promoting active, constructive and interactive training path.

The following in-depth didactic documents supports the audio/ video lectures:

- lesson content: in-depth text of the topics dealt with within the video lecture;
- slides: graphic supports to the lesson;
- animated cartoons: dynamic presentations synchronising images and dialogs showing Edu characters in different contexts;
- interactive exercise and tests: to practice the theory learned during the sessions;
- bibliography and links: selection of sources for an in-depth study of the topics dealt with during the lesson.

2.3 TUTORING

Online tutoring has a vital role in accompanying the students throughout the learning process, motivating and supporting him in different didactic activities.

In the framework of the FOR.COM. integrated learning system a team of specialised tutors is set up with the aim to sustain student motivation, promote collaborative learning processes and make the study relevant to the individual learner needs, facilitating access to course content, involving the learner in training activities, discussions and decisions and generally catering for helpful web communication. Thanks to the use of "social software" he enables users to rendezvous, connect or collaborate and to form online communities.

The FOR.COM. tutors act both as counsellors and didactic experts (FIG. 3. ON-LINE TUTORING).

FIG. 3. ON-LINE TUTORING

As a counsellor the online tutor adds the 'human touch' to the learning experience, by developing a relationship with his/her group of learners, motivating their progress and enabling learners to seek advice on any aspect of the course they have difficulty with. One of the difficulties of online learning is that participants feel isolated, for this reason the online tutor needs to become the central human contact point, reducing the impression that people are learning from a computer. With a more participative tutor, there are more opportunities to maintain a high level of motivation among learners. The tutor assures smooth course operations, improves adherence to policies and procedures, and enhances learner comfort level and retention. The tutor's actions provide the framework for learning and reduce learner apprehensions related to course content and procedures.

As didactic expert the online tutor assists the FOR.COM. students during the exploration of the different environments of the on-line course giving a constant evaluation of his didactic progress. He designs training scenarios and, by means of social software such as chat, e-mail, discussion forums, videochat, blogs, he is able to activate and structure collaborative learning sessions, to promote interaction among the different actors of the training process. The didactic tutor acts as a facilitator of the learning process enhancing cognitive outcomes related to course objectives and fostering community and collaboration among class participants. Because assessments are often a key motivator for online learners (people learn what they're be tested on), the online tutor needs to offer continuous feedback and encourage people to complete assignments in a timely manner. An effective online tutor continually reinforces performance by providing rewards and recognition of achievements. Furthermore, the tutoring permits the rapid exchange and sharing of information, documents, and didactic material contributing to the overcoming of the barriers linked to the distance learning.

3. FOR.COM. m-PLATFORM

M-learning represents the new frontier of distance training because it allows to transmit multimedia contents through the latest generation of mobile devices and to merge effectively two technologies - mobile and Internet - having already in common the slogan: "anytime, anywhere, anyhow".
The concept of m-learning is certainly concerned with learner mobility, the learner in fact should be able to engage in educational activities without the constraints of having to do so in a tightly delimited physical location. O'Malley et al. (2003) have defined mobile learning as any sort of learning that happens when the learner is not at a fixed, predetermined location, or learning that happens when the learner takes advantage of the learning opportunities offered by mobile technologies.
Mobile learning has a range of attributes that might contribute to its definition: it can be in-your-hands, in-your-pocket, on-demand, on-the-move, just-in-time and just-in-place.

In this context, the FOR.COM. m-courses foster a m-learning process as an "addendum to go" and, in combination with other forms of learning, support learning experiences which are collaborative, ubiquitous, accessible, and going beyond the boundaries of a classroom or a physical learning environment. Having access to the application anytime, anywhere increases daily attention to learning material, makes learning pervasive and certainly boosts the learner's motivation for lifelong learning.
The FOR.COM. m-courses, delivered through the FOR.COM. m-platform and specifically conceived and designed for PDAs and smartphones, encourage and promote ubiquitous and on-demand learning, thanks to the following learning scenarios:

- Administrative Services
- Didactic Pills
- Tutoring

3.1 ADMINISTRATIVE SERVICES

Through this section each student is allowed to enter a set of services to gain information on the course such as deadlines and Edu meeting appointments

3.2 DIDACTIC PILLS

Most of the FOR.COM. students are workers who need a quick access to the learning contents and the optimisation of their learning process. Moreover they need to get short pieces of information in order to solve quickly practical problems. They need just-in-time information to be contextualised with the work activities. Multimedia learning objects delivered through the FOR.COM. m-platform devices ensure the transfer of effective and application-oriented contents.
The training section of the FOR.COM. m-learning platform hosts different kind of multimedia learning objects:

- audio-lessons, didactic pills built up by an audio explanation synchronised with a slide presentation;
- animated cartoons, dynamic presentations synchronising images and dialogs showing Edu characters in different contexts (FIG. 4 ANIMATED CARTOON);
- quizzes, close-answer questions to be filled in and sent to the tutor.

FIG. 4 ANIMATED CARTOON

3.3 TUTORING

The social software provided by the FOR.COM. mobile platform are strongly collaborative, they promote learning through social interaction without attempting to replace any human-human interaction. The FOR.COM. m-platform, providing students with different communication tools, allow them to interact and strengthen relationships every time and everywhere. In this way the FOR.COM. students learn together, share the knowledge, the expertise and the know-how, have something in common, in other words they become a community.
The communication section supports the interaction among the students and the teachers/tutors thanks to use of the following instruments:

- forum, tool for asynchronous discussions moderated by the tutors;
- chat, tool allowing synchronous interaction among students and tutors;
- video-chat, tool allowing to Eduly meet the course tutor and interact with him (FIG. 5 VIDEO CHAT).

FIG. 5 VIDEO CHAT

4. FOR.COM. t-C@MPUS

The third component of the integrated system is the t-platform promoting the use of the television in the learning process. The television is a very familiar instrument allowing to knock down any psychological barriers caused by the use of technologies in education. The keyboard is replaced by the user-friendly remote control and the PC is substituted by television easy to use also by not ICT literate people (FIG. 6 FOR.COM. t-CAMPUS).
The t-learning promoted is a highly innovating solution: it concerns the use of the television as an instrument to deliver learning together with the e-platform and the m-platform.
Through the television, the student enters the t- C@mpus platform and benefits the different learning objects also available through the Edu C@mpus Platform.

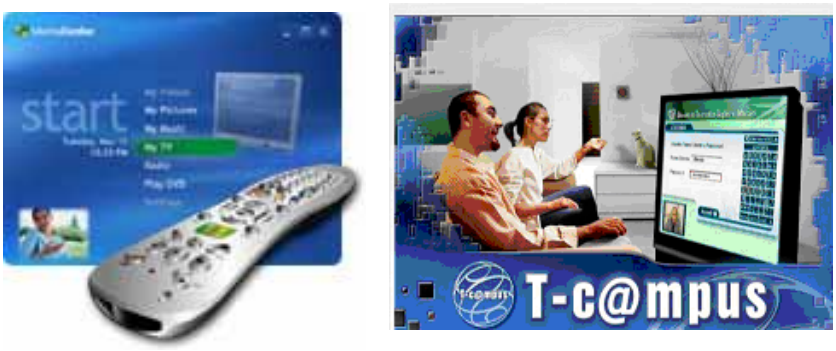


FIG. 6 FOR.COM. t-CAMPUS

In this context, the t-platform promotes a kind of learning process which is:

- hypertextual: thanks to the indexing of the lecture and thanks to the use of the remote control the students can easily stop, rewind, review, the teacher explanation planning in such a way his personal cognitive process;
- multimedia: thanks to the converge of different format of didactic material (audio, video, text, image) the students can activate and support different learning style. In this way is also fostered the users multiple intelligence (Gardner).

CONCLUSIONS

Each technological innovation implies important changes in our way of thinking and in the structure of our brain. Media allowing people to communicate, influence our cognitive processes determining the development of new mental models. De Kerckhove speaks about brainframes, affirming that as we are shaping technologies, technologies are also shaping us, on the very neurological level, making us into very different kind of people.
In this framework, the FOR.COM. integrated learning system considers the technologies as a mean to promote learning process and not the final end; the FOR.COM. re-thinks to the pedagogical methodology in a “ecological approach” (Bateson) focusing on the users and not on the technology. Based on the truism that learning is inherently social (Vygotsky), and that the individual mind is a part of an “ecology of mind systems” in constant interaction (Bateson), the FOR.COM. learning system promotes effective learning processes based on interaction and collaboration.

In this way the birth of a learning community is ensured supported by synchronous and asynchronous communication allowing remote students to participate in a common learning experience. The word “Communication” and the word “Community” have the same Latin etymology *Communis*, which means common, sharing and community. This helps to understand the one-to-one and bi-directional link between “Communication” and “Community”.
The FOR.COM. e-platform, the m-platform and the t-platform, providing users with different communication tools, allow them to interact and strengthen relationships every time and everywhere. The FOR.COM. users learn together, share the knowledge, the expertise and the know-how, have something in common, in other words they become a community.

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