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An instructional model to develop cognitive, metacognitive and motivational skills in problem-based learning environments

Leonardo Tosi, INDIRE



L'ISTITUTO NAZIONALE DI DOCUMENTAZIONE
PER L'INNOVAZIONE E LA RICERCA EDUCATIVA

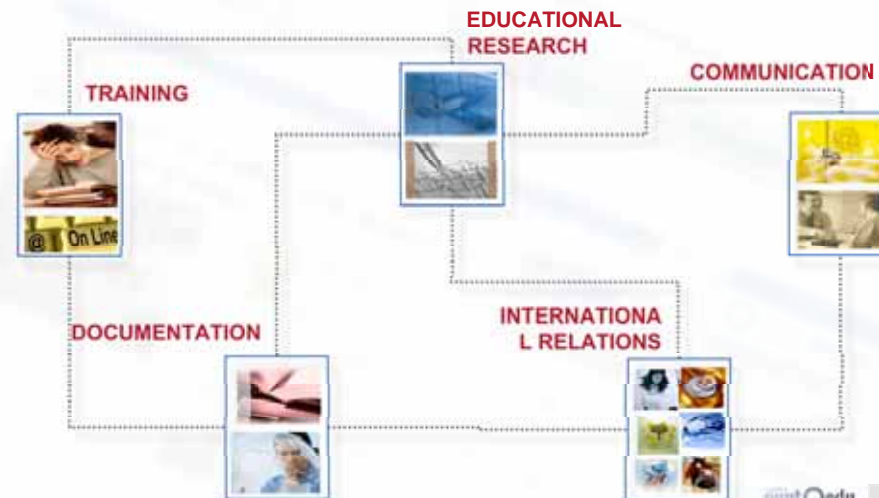
The National Documentation Institute
for Innovation and Educational
Research



based in Florence



L'ISTITUTO NAZIONALE DI DOCUMENTAZIONE
PER L'INNOVAZIONE E LA RICERCA EDUCATIVA





Indire is the national institution charged by the Ministry of Education to plan, organize and manage the **online training of Italian teachers and school personnel**. It has developed PuntOedu an instructional model supported by, an open, flexible platform and integrated environment for learning.

Structured training courses which can be personalised, and which are designed with quality content and language, and developed using technologically advanced tools.



Applied research on :

- training
- communication
- education
- treasury documentation

to archive and share knowledge.



Management of a **nation-wide documentation system** of research into education and of the experience gained in educational innovation.

Development of a **comparative information-sharing network** on educational systems in Europe and Higher Technical Education and Training Systems (IFTS).

Design and creation of **online database archive resources and tools for teaching**.



The Italian Ministry of Education and INDIRE **manage pilot projects** with the collaboration of the European Consortium of Ministry of Education (EUN).



COMMUNICATION



Research in communication as a crucial tool for quality training.



Assistance to teachers in their role as communicators.



Since 2001 INDIRE has been piloting blended e-learning training model



ADMINISTRATIVE AND TECHNICAL SCHOOL STAFF TRAINING



Puntoedu ATA - ongoing

2005-2007

Target: Administrative and Technical School Staff.

Focus: qualification and development of additional duties with increasing levels of responsibility and autonomy (Intesa nazionale 20 July 2004 and art.7 CCNL comparto scuola b.e. 2004-2005)

208.840 Trainees

5.058 E-tutors



Puntoedu uses an blended e-learning method integrating online activities and face-to-face meetings:

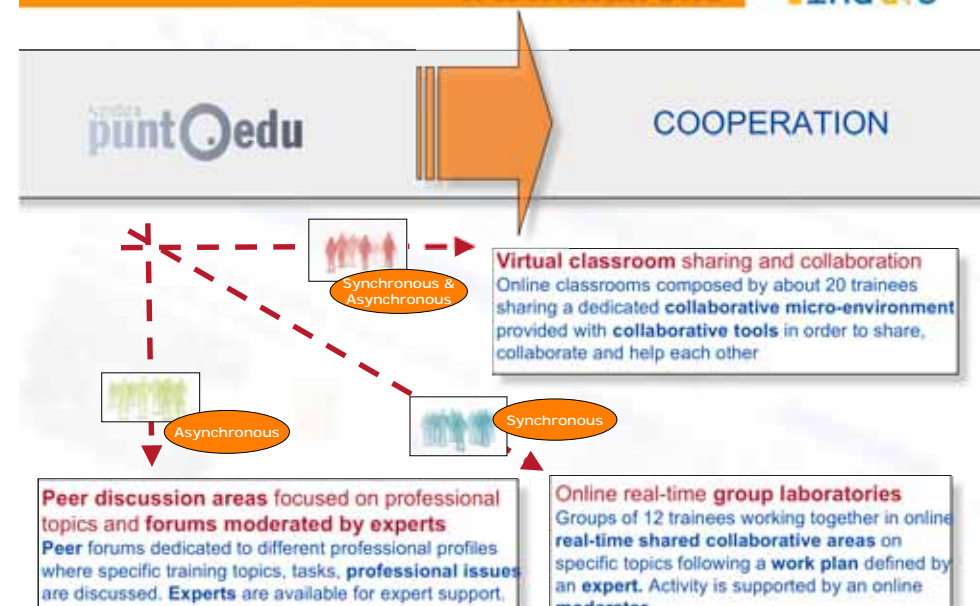
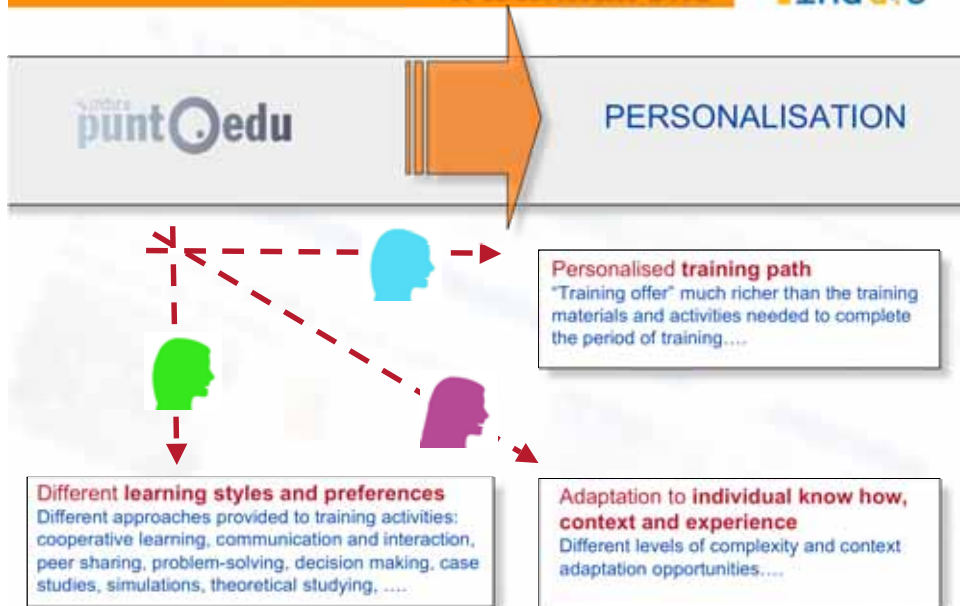
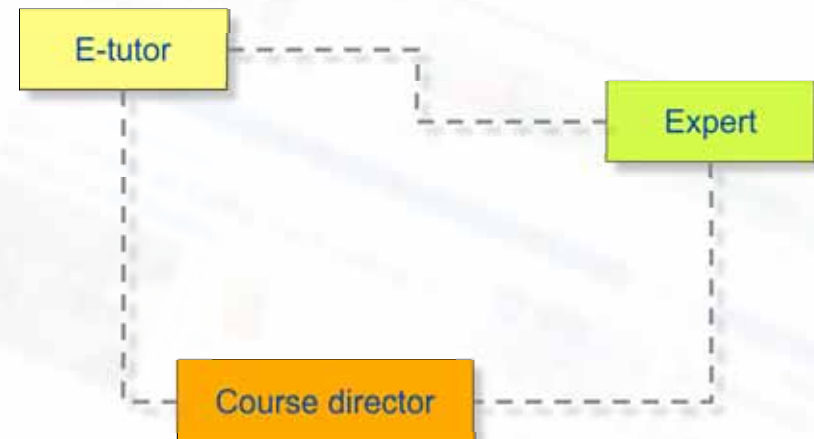
- On-line learning (e-tutor as facilitators)
- Classrooms lessons (e-tutor supported by experts)

Online learning and classroom lessons are integrated in a coherent personal training path with the support of the e-tutor.



The e-tutor ...

- Guides the trainee in getting familiar with the **learning environment**
- Supports the trainee in personalising the **training path**
- Helps the trainees in shearing a common initial basic computer skills background in order to properly use the **online tools**
- Moderates discussion and activity of his **virtual classroom**
- Motivates and supports the trainee in order to help him to successfully complete the training path and **reduce**



The instructional model ...



- Integrates **online learning** and **classroom lessons** in a unique training path
- Allows the trainee to combine **personalisation** and **cooperation** in a social shared learning environment
- Based on the participated action of the **e-tutor**
- Supports the trainee with a wide range of **supporting services** (e-mail helpdesk, technical forum, online guides and FAQs, dedicated phone and e-mail helpdesk for group laboratories).

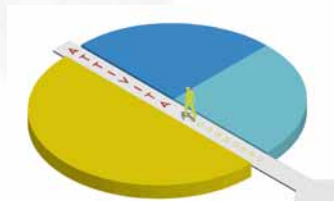


The Training Environment



A social system

that focuses on the continuous development of **knowledge** and abilities and their certification, in a specific domain.

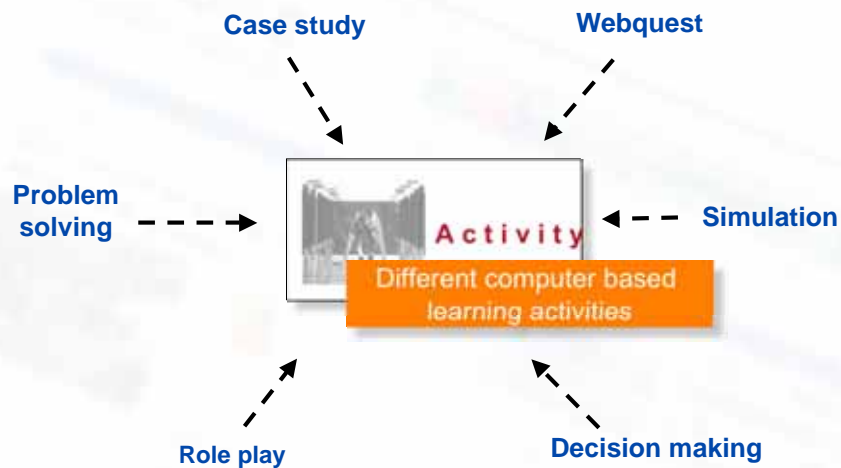


An environment based on the learning-by-doing concept in which **activities**, not materials, are the focus.



TRAINING OBJECTIVE

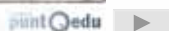




Activities are the core of the training



Multimedia has been used to build interactive scenarios and digital resources in order to make training activities appealing



The trainees are grouped in classrooms. Each classroom is composed by 20 trainees and supported by an e-tutor.

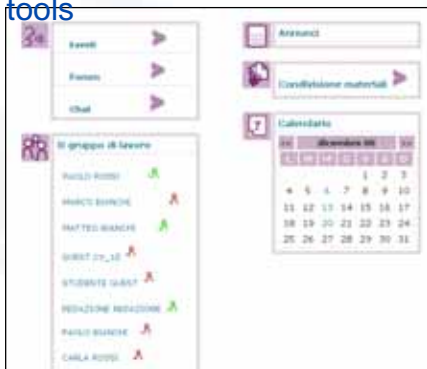
The trainees meet together in the face-to-face meetings and work together online in the virtual classrooms.

In the virtual classroom trainees will be able to:

- communicate with the other trainees and the e-tutor
- continue the discussions and analysis started in meetings
- collaborate to discuss and complete activities
- share documents and resources
- find information to be shared and applied in the environment



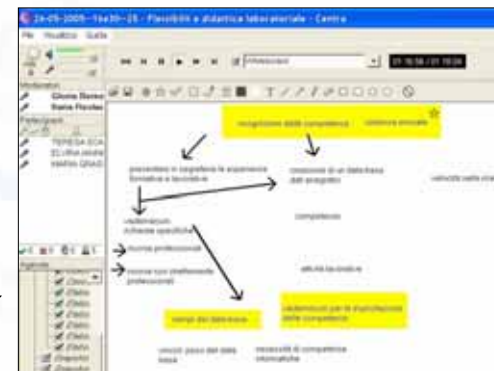
Online virtual classroom tools



Onsite classroom meeting



Synchronous



Monitoring and assessment of training initiatives are led by external bodies (universities).

Assessment of the presented training experience is being carried out by the University of Genova. Monitoring report will be ready in May 2007.

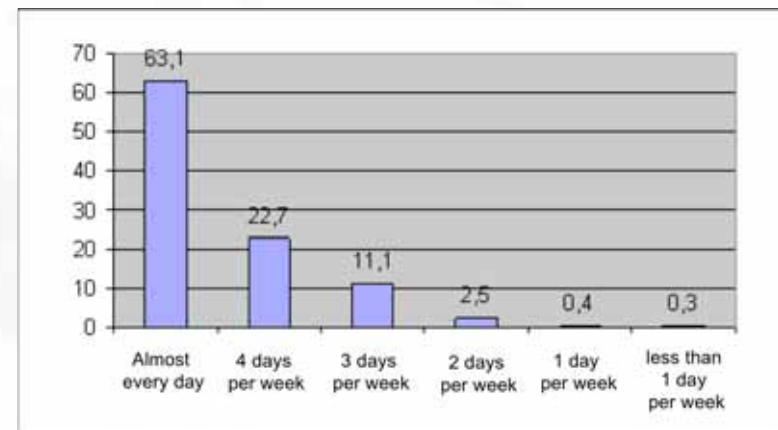
Assessment will be centred mainly on two key dimensions

1. measure the degree of **satisfaction** regarding both the training model and its supporting learning environment;
2. outline trainees and tutors profiles, as well as trainees' level of **achievement** and tutors' role and activities.

The previous monitoring report on training initiatives addressed to non teaching personnel is related to the CorsoConcorso training for School Heads (2003-2004).



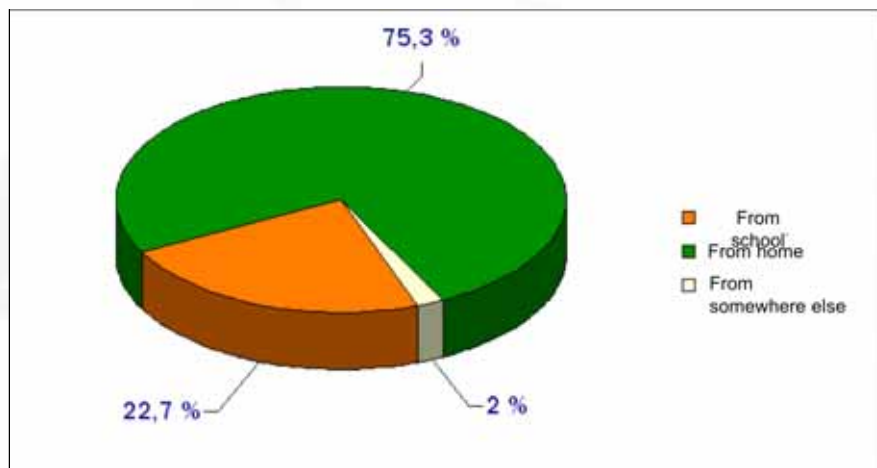
How much time did you spend on the learning environment on average during the training period (4 months)?



Source: "Monitoring activity" - Final Report April 2004 performed by the University of Ca' Foscari - Venice



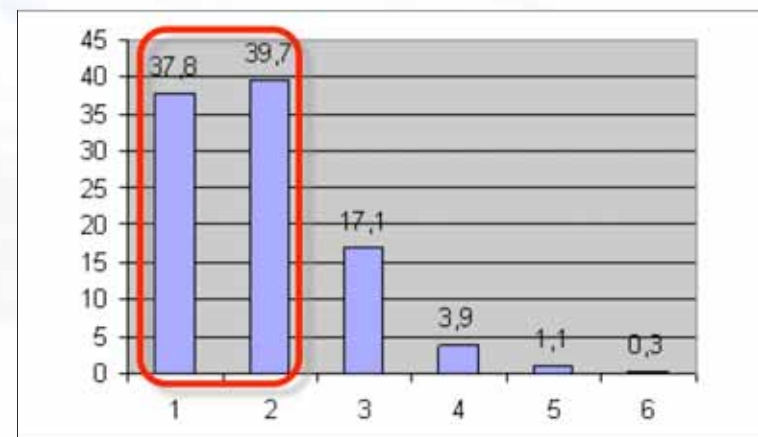
Where did you connect from to access the online learning environment?



Source: "Monitoring activity" – Final Report April 2004 performed by the University of Ca' Foscari - Venice



Using a 1 to 6 level (1 = very effective; 6 = very weak) how do you consider the online training experience?



Source: "Monitoring activity" – Final Report April 2004 performed by the University of Ca' Foscari - Venice



Some elements to share :

- Need to consider **research in education** as strictly linked to the planning of a training system and need to continuously **monitor and assess** the implemented solutions in order to constantly develop the adopted training models.
- Training not confined to a specific (onsite or online) time and place: a new training perspective could be based on the concept of **learning environment**.
- Focus on **cooperative learning** and a **social system** to let tacit knowledge emerge, to share good practices, to exchange personal professional experience.
- Importance of **motivational aspects** connected to learning and training as key issue influencing the final success of a training initiative.



NEED OF EDUCATIONAL RESEARCH TO SUPPORT ICT ENHANCED TRAINING IN

"We know how to bore people in a classroom, now we know how to bore them online. The principal reason why most people have trouble suffering through an e-learning course is that there is usually nothing to do but read, look and take a multiple choice test. There are usually no instructional activities that deeply engage the mind of the learners, and interactivity mostly consists of tuning from one screen to another".

G. WOODILL, 2004

"A review of the first wave of e-learning revolution is not pretty. The landscape is littered with poor products and a lot of disillusioned learners... There are also big lessons for the software providers, who gave technology-obsessed course developers free rein to create glitzy, highly interactive, very expensive multimedia courseware that too often dazzled the eye without ever informing the mind".

D. BUNIS, 2003



LEARNING ENVIRONMENT

"A learning environment is a place where people can draw upon resources to make sense out of things and solve problems".

"A learning environment is a place where learners may work together and support each other as they use a variety of tools and information resources in their pursuit of learning goals and problem-solving activities".

B. WILSON, 1995



COOPERATIVE LEARNING APPROACH

"Learning is best understood as an interaction among practitioners, rather than a process in which a producer provides knowledge to a consumer".

"Practitioners have a special connection with each other because they share actual experiences. They understand each other's stories, difficulties, and insights. This allows them to learn from each other and build on each other's expertise".

E. WENGER, 2002



MOTIVATIONAL ASPECTS OF TRAINING

"As certain things motivate, others discourage. Few things are more demotivating than fear. Learning is, after all, a very emotional process. We must see, feel and do. Fear, anxiety, and anger are emotional factors that negatively impact learning. [...]"

The big issues are relevancy and immediacy. Most people don't have time to waste. We want to spend time learning what will make a difference now".

M.L. CONNER, 1996



MORE INFORMATION:

INDIRE website

www.indire.it

PUNTOEDU instructional model

www.bdp.it/galleria/puntoedu/spot02/eng