The Evolution of IT and ICT Education in Italy and the Bebras Contest

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Structure of the presentation:

- Computing Education and Teachers training in Italy in last decades

- The Italian most recent projects *Innova*-School and *Innova*-Didactics

- Digital Literacy, Digital Competence and the *Bebras* contest
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Computing and Education in Italy in last decades

There have been at least two different phases for Computer Education at school in Italy, they respectively relate to PNI (National Informatics Project) and PSTD (Project for the Development of Didactic Technologies).

The PNI started in 1985 and introduced computer in the school as:

a) an instrument to help teachers in their work

b) a knowledge amplifier helping students to develop reasoning and problem solving skills

By this project special computing topics like algorithms, codification, data structure and type, computer architecture, etc. were introduced in the first two years of Mathematics and Physics curricula in the High School.
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**PSTD** started in 1997 (it was a triennial plan) and was mostly devoted to primary and junior High Schools. In this project the schools were directly funded to buy computer and multimedia laboratories.

The main difference between this project and the former one was the focus it had on computing literacy for teaching, with a special attention on the computer as a communication tool and an information manager.

Other differences between the two projects relay in teachers training:

a) in PNI selected and especially trained teachers were used to make updating courses school by school (time consuming and long times of application),

b) in PSTD schools and teachers were free of choosing the persons training them in computer use.
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More recently (at the beginning of the new century) the agreements that AICA (Italian Association for Informatics) made with many public institutions led to the identification of **ECDL (European Computer Driving Licence) and/or IC3 (Microsoft certification)** for the assessment of computing literacy.

Since some years **INDIRE**, a public institution integral part of Italian Ministry of Education, started a program of online courses for teachers (on the e-learning platform **punto-edu**).

Together with first employ courses, different level IT and ICT literacy courses have been and are held, on the INDIRE platform (mostly based on ECDL structure).

It is worthwhile to note that the above instruments and activities have little or nothing in common with **PNI** and **PSTD**.
Since 2007 the Department of Innovation and Technology (a branch of the Italian Council of Ministers) has approved the projects Innova Scuola (Innova-School) for different levels of Italian schools.

What is new in this projects:
1. There is a national competition schools must win to receive an interactive blackboard and to access funds to buy computers and other equipments,
2. Schools winning the competition must produce a given number of learning objects to be used at school and to be made freely available on the Internet,
3. Funds are provided in two tranches, after the production of a first set of learning objects,
4. A part of the funds must be used to pay the teachers working at the production of the learning objects (as a salary integration)
The INDIRE made a national competition for:

a) the supply of interactive blackboards,

b) the creation of a list of tutors (in every region) helping teachers in the use of the interactive blackboard.

The actions by INDIRE have been named Innova-Didactics.

The Laboratory for Teaching and Learning Technologies, in the University of Cassino, made agreements with some (6 – six) schools in the region to support them in the production of learning objects and to introduce the TETIS platform (TEaching Transparency Information System) in the management of the teaching processes.

It is worthwhile noting that those schools won the contest.
The picture on the right gives a snapshot of the **TETIS** platform (its structure and functioning).

The joint use of the TETIS platform and e-learning platform Moodle (for the management of learning objects) looked suitable enough to support teachers in the introduction of ICT in the teaching process and in changing the student-family-school interaction.

**Fig. 1 - Information System draft and data flow**

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Pasvalys, May 2009
In 2006 the Laboratory for Teaching and Learning Technologies has been involved in a national research project for digital competence assessment.

The model on the right has been hypothesized by the research group of Florence:

- Exploring new technological contexts in a flexible way
- Access, selection and critical evaluation of information
- Understanding the potential of networking technologies for collaborative knowledge building
- Interacting through ICTs in a responsible way

Understanding the potential of networking technologies for collaborative knowledge building

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Pasvalys, May 2009
The results from that experience led to the construction of the site on the right.

http://www.competenzedigitali.it/
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Digital Literacy Digital Competence and the Bebras contest

In that site the Italian chapter of the Bebras contest is hosted.

Its regulation has been approved by the Dept. of Human and Social Sciences in the University of Cassino.

In school year 2009-2010 will start activities concerning the contest.
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In the same site is hosted the working area of the journal:

International Journal of Digital Literacy and Digital Competence

All colleagues are obviously invited to send their proposals for contributions to:
cartan@unicas.it
The picture on the right gives a snapshot of the journal site by the side of the publisher (IGI Global, Hershey, PA – USA).