INFORMATION TECHNOLOGIES AND EDUCATION: TOWARDS NEW TEACHING PARADIGMS

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LEARNING AND IT/ICT INFLUENCE

Individual effects

Taylor (computer metaphors: tutor, tool and tutee)
Galliani (extension of the above metaphors: CAI, CAL, CAE, ICAI, ITS, special tools and programs for the creation of micro-worlds)
Cornoldi & Caponi (meta-cognition)

Social effects

New knowledge structures:
Rheingold (virtual communities)
Lévy (collective intelligence)
de Kerckhove (connective intell.)
Calvani (hypertext knowledge and new social negotiation for it)
Trentin (community memory).

New learning environments:
CMS, LMS, CSCLS, KMS

New professionals: teacher vs tutor (system & discipline)
New and old problems while teaching with the ICT

MISCONCEPTIONS AND MENTAL SCHEMES
ICT had little if no effect on wrong ideas people show when attending scientific courses. Special care in platform planning and collaborative and constructivist strategies led to good students’ performances but didn’t cancel their wrong ideas.

LEARNING STYLES
Students’ learning styles interact with teaching styles and e-learning environments. The following results are possible:
- a) students’ performances can depend from learning styles,
- b) students’ learning styles can be modified by suitable environments.

EVALUATION AND ASSESSMENT
Traditional assessment strategies are today often integrated by alternative assessment strategies. Among them portfolios are affirming together with their on line versions (e-portfolios / on line portfolios). Results of recent research proposes a careful analysis of the strategies to adopt.
CHANGE of FOCUS in ICT USE IN EDUCATION

Fig. 1 - Evolution of ICT use in education
ICT & Latin Paleography: experience 1

Women and written culture in the Middle Age

Dynamic site interfaced with a data base of women and manuscripts

http://edu.let.unicas.it/womediev/

IRMA International Conference

San Diego, May 2005
ICT & Latin Paleography: experience 2

INFORMATION SYSTEM
*BMB on line*

Users accessing the system:
- System administrator
- Scientific administrator
- Contributor
- General user (who can only query the data base)

http://edu.let.unicas.it/bmb/
IMPLICATIONS for CoPs, CoLs and Virtual communities

- Classes of paleography students’ (communities) showed:

1. all features of CoPs and FCL (Fostering Communities of Learners) as described from Scardamalia & Bereiter (group working skill, better facing of complex situations and problems from individuals and improvement of individual skills).

2. all features of CoPs, as described from Wenger: a) shared aims and tasks; b) reciprocal engagement, c) shared repertoire of knowledge, instruments and methods.
   (With respect to Wenger’s CoPs the students’ communities are not autonomously built).

3. Virtual communities and CoPs can be more similar among themselves than otherwise stated.
   (Denning, for example, says that virtual communities need presence interaction).
Implications for knowledge construction and evolution in CoPs

Information Systems for paleography led to:
- Implementation of the best practices in the system and easy sharing of these practices among students,
- Easier socialization of tacit knowledge among the subjects involved in the experience than creation of a community memory.

Fig. 2 – Integration of the SECI model with a new element
Implications for teaching & education

New models for knowledge construction and evolution in individuals and communities can be developed.
New dependencies can be hypothesized among formal, non formal and informal educational environments.
A synergy between studies on communities made in corporate and organization and pedagogical research on learning environments must be searched.