

## **New Perspectives for Learning - Briefing Paper 39**

# **Impact of ICT-supported learning innovations**

### **Context of the Research**

A large number of information and communication technology (ICT) -supported learning innovations have been funded by regional, national and European-based bodies over the last few years including some funded by the European Commission DG for Research under the Targeted Socio-Economic Research Programme (TSER) and the Joint Multimedia Call with a TSER component. However, little research appears to have been conducted on assessing the overall impact of these individual projects.

This project has aimed to optimise the results of these ICT-based learning projects by monitoring and reviewing the projects in order to identify key qualitative indicators of innovation and a new research agenda for future actions. This has been looked at from the following perspectives: -

- New methodological approaches to learning in technology-based learning scenarios and their efficiency
- Institutional/organisational consequences, including cross-cultural issues to be solved
- Contribution of ICT to lifelong learning.

### **Key Conclusions**

The following conclusions were reached: -

1. Engagement of ICT in learning alters traditional teacher-student relationships, and, as a result, there are changes in the roles of the principle educational actors.
2. Information management strategies take a more central role in learning that affect both knowledge building and the organisation of the classroom environment.
3. Change of organisation in the classroom appears to be caused by the combined effect of the media being used and the teaching approach being applied that of placing emphasis on the learning processes rather than the outcomes, and on social learning rather than individual learning.

4. Strategies are oriented towards: -
  - a) Collaborative learning;
  - b) Project-based learning;
  - c) Self learning;
  - d) Communicative strategies to learning.
5. Teachers' attitudes towards ICT are connected to socio-cultural, professional and technological barriers.
6. Effective implementation of ICT in learning requires that institutional changes to be addressed by all responsible actors. It is necessary to consider the following:
  - a) Development of a culture of collaboration amongst all actors (teachers, students, administrators);
  - b) Flexibility of curriculum;
  - c) The perception of ICT as a window of opportunities for institutional development;
  - d) Cost-effectiveness,
  - e) Wider access of educational opportunities offered by ICT,
  - f) Organisational factors such as institutional barriers need to be considered.
7. A fully embedded innovation within on-going institutional interventions is most likely to be successful and staff training is crucial to the success of innovations.
8. Parameters for designing teacher-training schemes are more conducive to the ICT-based learning innovations' requirements.
9. ICT-based innovation in learning: -
  - a) Enhances student-centred learning approaches;
  - b) Facilitates the transformation of teachers traditional roles and functions;
  - c) Shifts towards more collaborative and participative forms of learning;
  - d) Promotes new competencies required for improving teaching and learning.
10. An agenda for policy articulation in the field of learning innovations with ICT ought to focus in the areas of: -
  - a) Equal access to educational opportunities;
  - b) Cross institutional cooperation;
  - c) Institutional transformation;
  - d) Organisation issues regarding the educational praxis;
  - e) Knowledge sharing and knowledge negotiation mechanisms;

- f) School organisation and curricula development;
- g) Provisions for learning on demand;
- h) Teacher's professional development;
- i) Provisions for support to the educational actors;
- j) Knowledge dependencies and gender issues;
- k) Lifelong learning policies

## **Key Recommendations**

The following recommendations were made for future research: -

1. Support studies for developing pedagogies for learning in the knowledge society, with the focus on the management of cross-cultural and linguistic issues in the framework of a European education space (e.g. transregional/transnational joint courses and/or learning materials development, transnational joint-student support, transnational collaborative learning, layered approaches of learning platforms).
2. Support research that pays attention to the emotional aspects of learning in ICT-based environments, like the extent to which social and learning skills, self-managing skills, and other meta-cognitive capabilities are developed.
3. There should be studies in emerging new competencies, skills and meta-skills of teachers, tutors and other academic staff (as well as managers) for e-learning.
4. There is a need for in-depth study of people's information seeking behaviour in ICT-based learning situations and its relation to the building of knowledge.
5. At the strategic level, there should be longitudinal studies to investigate the sustainability and scalability of the recently introduced learning innovations, like the learning effects arising from learning with ICT (such as learning in new scenarios combining face-to-face and virtual learning), changing habits of study, new assessment components, long-term teaching effects, and promotion of the notion of "classroom observatory" type of activities.
6. There is need to address the lack of rich evidence on the issues of equity, exclusion and gender. Some fundamental questions are related to how we can handle new forms of exclusion as a consequence of the level of education and limited access to technologies of electronic transmission information; and to what the pedagogical factors are that inhibit /promote social exclusion.
7. The rhetoric of European lifelong learning needs to be made more concrete by: -
  - a) Bridging the gap between theory and practice across the different sectors (and different 'patrimonies') of learning;
  - b) Developing a knowledge base on 'what works, for whom and under what conditions', with particular regard to the use of virtual learning (e-learning) in education and training;

- c) Consolidating knowledge on new ways of promoting social inclusion (e-inclusion) and integrating social inclusion policies with education and training policies more effectively.

### **Further Information**

Full title of study - "Monitoring and evaluation of research in learning innovations (MERLIN)" completed in August 2002

[Full report](#)

### **Contact Person**

Dr. Mario Barajas  
University of Barcelona  
Department of Didactics & Educational Organisation  
Passeig Vall Hebron, 171  
08035 Barcelona  
Spain

Tel: +34 934037223

Fax: +34 934035014

Email: [mbarajas@ub.edu](mailto:mbarajas@ub.edu)

<http://www.ub.es/euelearning/>

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