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The impact of new technologies on distance learning students

It is known that the United States of America spends many billions of dollars annually on the provision of educational technology to American schools, colleges and universities. All the 27 Departments of Education in the European Union in like manner spend millions of euros each year on the provision of educational technology.

In the light of this massive expenditure the research on the impact of technology on learning, what actually happens when students use technology in their education, is inadequate.

The extant literature of the impact of technology on learning is fragile and inconclusive. This was the view of the World Bank in March 2005 (*Impact of ICTs on learning and achievement).* In the UK in January 2004 Cox et al *(A review of the research literature relating to ICT and achievement)* reach the same conclusion. In the USA in 2005 similar findings come from the University of California at Santa Barbara.

A detailed search of the literature shows that what research there is, is nearly all on the impact of technology on children in schools. There is little or nothing on adult education, on lifelong learning or on distance learning. The research situation is unacceptable in an area that is costing European governments millions of euros annually.

One of the major manifestations of the use of technology in education is distance education. In distance education the use of technology is essential. It is not a supplement. What the first distance educators did was to break with the 2000 year history of the provision of education by interpersonal communication, between the teacher and the taught, in the learning group, and to replace it with the teacher separated from the learning group, using an apersonal form of communication, mediated by technology.

Today distance education is a rich and complex sector containing five major fields of education and training provision which are detailed here for the first time:

- Distance education – the provision of education and training at a distance by Open Universities, distance education institutions and distance education departments of conventional institutions
- E-learning – e-learning is the provision of education and training via the WWW for students who study mainly as individuals using LMSs (or VLEs) like WebCT and Blackboard
- Synchronous e-learning systems – these are the provision of education and training on the WWW to students who study mainly in groups using LMSs like Centra or Horizon Wimba
- The use of the WWW for the provision of education and training on university and college campuses as a supplement to lectures and ILT

given on campus or, alternatively, as a substitute for lectures when the courseware is provided on the WWW in the institution in place of lectures

- Mobile learning – the provision of education and training on PDAs (including palmtops and handhelds), smartphones and mobile phones.

The issues raised on the impact of technology on learning in adult learning, lifelong learning and distance learning are so important that the European Commission has agreed to fund a Leonardo da Vinci References Material project on the topic.

The project partners are:

- Ericsson Education Ireland, the international training centre of Ericsson, the major telecommunications company
- Distance Education International, an Irish research and development in distance education institution, based in Dublin, Ireland
- The FernUniversität in Hagen, the German Open University
- The University of Plovdiv, a major Bulgarian university
- Università degli Studi Roma III, a major Italian university with extensive experience of the evaluation of educational outcomes
- Corvinno, the Technology Transfer Centre of the Corvinus University of Budapest in Hungary.

The methodology to be used in the project is based on the *Identifying and implementing educational practices supported by rigorous evidence* of the US Department of Education, Institute of Education Sciences of December 2003, probably the most recent and most authoritative educational research methodology available at present.

The work of the project is well under way. Under the leadership of Professor Benedetto Vertecchi of the University of Rome III, a leading European authority on educational administration and the author of many books on the subject, the partnership has designed questionnaires for distribution to both intervention groups and control groups on the impact of technology on learning.

Seven investigations are being carried out on:

- The impact of technology on learning in Open Universities
- The impact of technology on learning in e-learning systems
- The impact of technology on learning in synchronous virtual classroom systems
- The impact of technology on learning in the use of the WWW on-campus
- The impact of technology on learning in mobile learning
- The impact of technology on learning by men and women
- The impact of technology on learning by the young and the old.

The questionnaires have been distributed to students and citizens who comprise the intervention groups and the control groups for the first two investigations. Data is being collected, statistics are being analysed and reports are being written. The completed reports will be distributed widely, both on paper and the WWW.

To follow the research and for further information, please go to www.ericsson.com/impact