

Challenges in pervasive e-Education

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Abstract:

Pervasive e-Education is a challenging way to assist life long learning. Research in this area must consider the whole educational process including the new culture of learning which new media brings, consequently, analysis of psychological aspects of educational processes must be considered on three levels: Macro-, meso- and microlevel. This includes questions of effectivity and efficiency (cost-benefit ratio) which can be subsumed under the terminus “added value”. Here, the interdisciplinary bridge between Psychology and Informatics is a necessity, due to the fact that not only research, but also development must be carried out together. However, pervasive e-Education requires a totally new media perspective on Learning Objects; instead of viewing handhelds or smart phones as minimized PCs they should be seen from the perspective of the notion of learning objects as active semiotics. However, whichever perspective you take into account, pervasive e-Education requires a complete independence of location – which is more than just being mobile. Text, audio, image, video on Desktop, Tablet PC, TV, iTV, PDA, iPod etc. – each and every medium and terminal has individual pro and cons. Consequently, Learning Objects must be adaptable for any device: This is the core idea of Chameleon Learning Objects (CaLOs). However, good LOs must fulfill more than just technical characteristics. The LOs must be adjusted to the needs and requirements of the learners: They must correspond to a model of psychological learning and motivation including cognitive style, learning strategy and most of all preliminary knowledge. Consequently the CaLOs must follow a triple adaptation model (location, device and end-user). CaLOs gain information on end-user behavior through the evaluation of pre-knowledge questions and self evaluation questions.

Biographical Information:

Holzinger was Visiting Professor at Innsbruck University, Institute for Organization and Learning (IOL) in winter term 2004/05 and is Visiting Professor at Vienna University of Technology, Institute for Software Technology and Interactive Systems (IFS) in Winter term 2005/06. Holzinger is Consultant for the Austrian and German Ministry of Science, National expert and IST evaluator in the European Commission (EC), Industrial Consultant, member of the International Federation of Information Processing (IFIP) WG 13 (HCI) and member of the European Research Consortium in Informatics and Mathematics (ERCIM) Working Group User Interfaces for All (UI4ALL). He is elected chair of the WG HCI&UE of the Austrian Computer Society. More Information: www.basiswissen-multimedia.at (click on Holzinger Home).