Empowering access to and use of environmental culture content related to natural history and nature/environment preservation

1. Workshop Description

In the context that nowadays formal education is facing new challenges and schools can no longer be mere providers of knowledge, non-formal education increasingly appears fundamental to science education. Natural History Museums, Aquariums and science centres can provide supplemental services to formal education beyond the classroom context. Current literature indicates new approaches to learning through inquiry and hands-on experiences which are not usually found in schools, while at the same time museums and science centres have the potential to become more educationally accountable in order to allow students to enhance their learning experience. The development and use of novel graphical interfaces that will facilitate visitors' navigation through a series of learning pathways will contribute on improving and empowering access to and use of environmental culture content related to natural history and nature/environment preservation.

Innovative approaches for teaching and learning through the usage of advanced technological tools and user-generated resources will be presented. A series of scenarios of use will be described and proposed as a means of creating opportunities to interact with science resources in pedagogically-rich ways. To this line, the specific session will interconnect educational activities taking place in school (formal) with informal activities taking place in museums and science centres (informal) through the use of relevant educational approaches that will be highlighted. This will promote knowledge creation, autonomy and self-direction, whilst offering guidance and structure when needed; as well as adding value to the learning process through adaptive, personalised and customised approaches.

The proposed workshop addresses all stakeholders of the educational sector, ranging from trainers, to tutors and teachers, despite the application domain in which they specialize. The subjects of learning theory and its application in schools will be of interest of all practitioners within the broader field of education.

2. Main research questions addressed at the workshop

1. How can we establish a closer and more effective collaboration between museums and/or science centres and schools?

2. How could the visit to a museum/and or science centre be transformed into a creative and innovative experience?

3. How could the visitor of a museum/and or science centre interact in a supportive and meaningful way with relevant content?

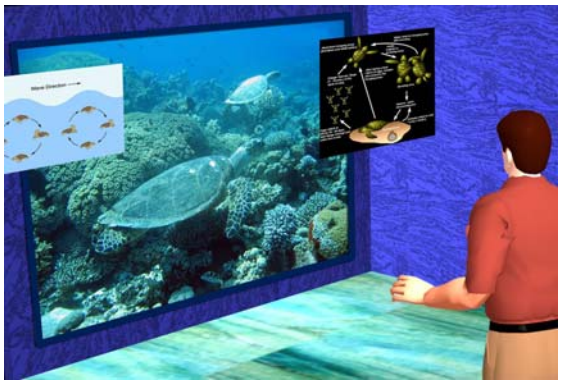

Figure 1. Visit at an aquarium by making use of advanced learning technologies

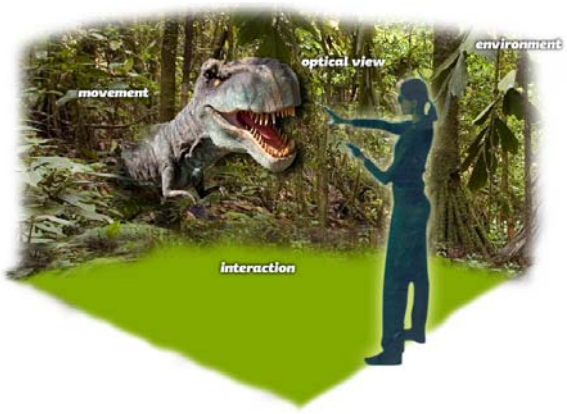

Figure 2. Augmented reality applications in Natural History museums

Sofoklis Sotiriou et al. (2010). Empowering access to and use of environmental culture content related to natural history and nature/environment preservation M. Kalogiannakis, D. Stavrou & P. Michaelidis (Eds.) *Proceedings of the 7th International Conference on Hands-on Science.* 25-31 July 2010, Rethymno-Crete, pp. 51 – 52 http://www.clab.edc.uoc.gr/HSci2010

3. List of speakers & the title of their talks

Convenor: *Sofoklis Sotiriou*

Prof. F. Bogner
(University of Bayreuth)
"Environmental Education and the 2-MEV Model: Interaction with Attitudes and Values in Green Out-of-School Settings."

Dr C. Voreadou
(Natural History Museum of Crete)
"Connecting Formal and Informal Education in the Natural History Museum of Crete"

Dr. M. Papadakis
(CRET@QUARIUM)
"Educational Activities in Cret@quarium"

Dr. N. Manouselis
(GRNET)
"The Natural Europe Initiative"

Dr. S. Sotiriou
(Ellinogermaniki Agogi)

"Transforming the Visit to a Museum/and or Science
Centre into an engaging educational experience"

Dr. P. Lameras
(Ellinogermaniki Agogi)
"Learning Theory and its Application in Schools and Museums"