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Abstract

This study will evaluate the development of network-based learning environments in the Finnish ENSI (Environment and School Initiatives) program (2000-2008). The first part of the presentation concerns the use of Knowledge Forum environment in service of the Finnish ENSI R&D program. The second part concerns Cmap-Tools, a software for creating concept maps, and allowing collaborative knowledge building. The third part is about an innovative new online service NatureGate with which members of the Finnish ENSI R&D program are currently working. These ICT tools for collaborative working have helped the ENSI members to act as a research community and have supported their active learning.

The Finnish ENSI R&D program 2000 – 2008
ICT supported education
for sustainable development in the schools

ENSI (Environment and School Initiatives)

The Finnish ENSI program has developed network-based learning environments for ESD, which are presented on this poster.

http://www.ensi.org/

The National Board of Education and the Finnish ENSI program provide teachers online possibilities of using the best tools available for EE and ESD.

Knowledge Forum

Knowledge Forum is an electronic group workspace designed to support the process of knowledge building. The experiences from the first year of the Finnish work in the ENSI project with Knowledge Forum on the themes of 'learnscapes, ecoschools and teacher education' were very encouraging (Åhlberg, Kaasinen, Kaivola, & Houtsonen, 2001). After almost ten years of founding (2000) by Ministry of Education and University of Helsinki, the Finnish Knowledge Forum for ESD, its collaborative knowledge building is still going on. Mylläri, Åhlberg & Patrick (2009) have researched on five first years of its collaborative knowledge building. The paper is accepted to be published in British Journal of Educational Technology.

Concept maps and CmapTools

In ENSI program of Finland, there is a long tradition since 1990s to use concept mapping to promote environmental education and education for sustainable development. E.g. Principal Vuokko Ahoranta (2004) used and tested them for six years. In 2006 the Finnish National Board of Education founded a CmapTools server for schools and the Ministry of Education for Teacher Education. These two servers have greatly promoted use of concept mapping for environmental education and education for sustainable development.

NatureGate Online Service

The first pilot NatureGate Online Service was founded in 2008. It was presented to the Finnish ENSI group and most of members have tested and praised it. Also the International Union for Conservation of Nature (IUCN) has written a very positive evaluation of it: www.iucn.org/about/union/commissions/cec/?2614/

The same kind of positive evaluation has come from Ministry of Environment: www.ymparisto.fi/default.asp?node=5319&lan=en. Also the National Board of Education recommends use of NatureGate on its homepage.

The Co2nnect climate change campaign

Under umbrella of ENSI, the Support-network decided to run a worldwide campaign on mobility connected to school. The offered Co2nnect campaign site is an intelligent tool for benchmarking CO2-production by using different means of transportation.

Results of ENSI

Teachers who have reported their experiences of using these three ICT supported education tools:

Mervi Aineslahti (2009) describes her experiences of two of these tools in her narrative doctoral thesis A Journey in the Landscape of Sustainable School Development.

Arja Kaasinen (2009) has her doctoral dissertation examined this year. The title is Recognizing plant species, learning and teaching of it from the viewpoint of General Education. Also she has used and tested all three tools.

Annukka Alppi is writing her doctoral dissertation that is due in 2010: A narrative study of Mahnala Environmental School. She also found all three tools practical in her work.

Riitta Lunti (2008) wrote her Master's Thesis from her own work: Bugs and critters, changes in children's perception of the concept of nature during their year of preschool education. Also she has used and tested all three tools.
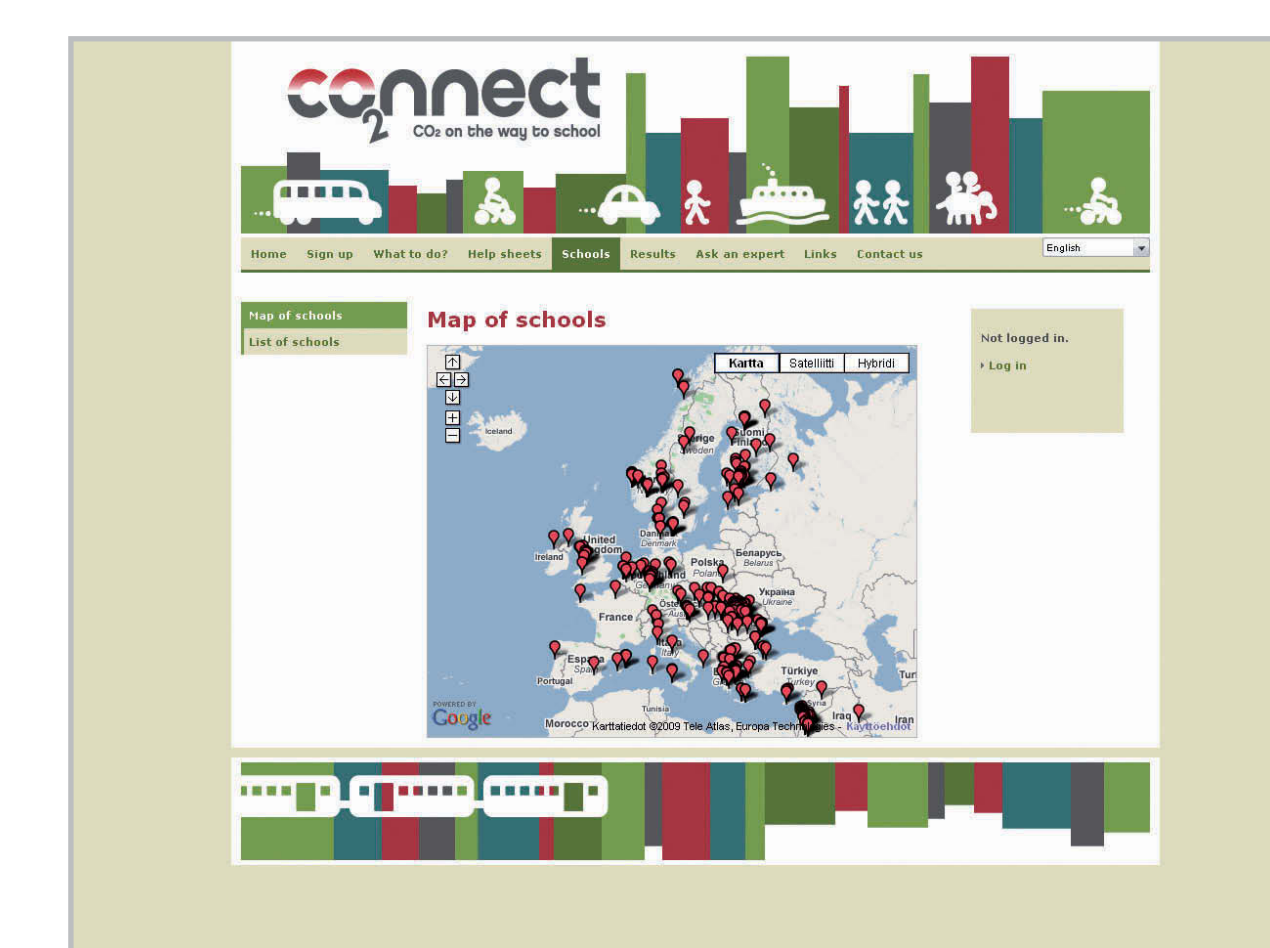
Discussion

Information and Communication Technology makes it possible to promote EE and ESD both locally and globally. Finnish ENSI group believes on school based testing and innovations. Teachers become teacher-as-researchers and to use, test and continually improve the best available tools for EE and ESD.
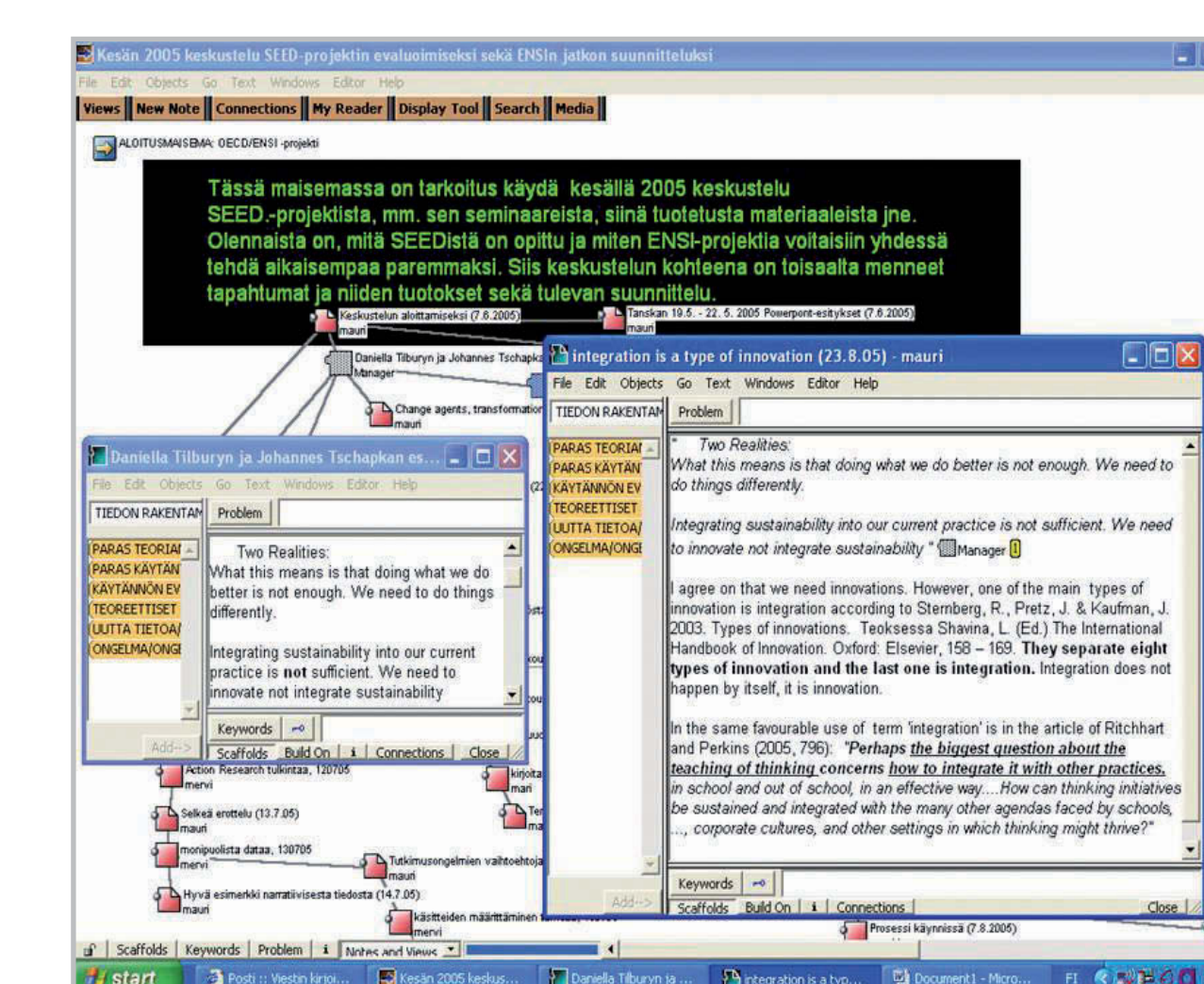
A tree structure of notes in Knowledge Forum.
Two notes opened. The right one is a built-on note of the left one.

Pupils from the Mahnala Environmental School testing NatureGate Online tools for fast and easy species identification.
Photo: Annukka Alppi.

Map of showing active schools in Europe in SUPPORT Co2nnect project using ICT. Finland has been active.

en SI environment and school initiatives

FINNISH NATIONAL BOARD OF EDUCATION

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NatureGate