



First Project Review
Luxembourg, July 2nd 2003

EU Project COLDEX

***Collaborative Learning and
Distributed Experimentation***

(IST-2001-32327)



Topic List

- COLDEX framework and origin
- Approaches and challenges
- The background(s) -> partner profiles



“E-Learning Futures”

E-Learning futures is conceived as an action line open to fundamental and visionary contributions to shape the future of net-based educational systems and services. On the other hand, there is a popular understanding of e-Learning defining it essentially as “e-commerce with learning-related IT products and services”. ... The “magic factors” neglected in this model are *context and culture*. To be effective, learning in groups and also in virtual communities should take place in a common context of habits, orientations, persons, locations etc. which serve as a frame of reference and allow for more implicit communication and shared understanding. In this sense, *inter-operability* is not only a technical feature but also a social and cultural phenomenon. If this is true, virtual learning communities have to be established by building up context and common culture which we believe has to proceed bottom-up, i.e., *from the local to the global communities*.



The Origin: Eurolatis

- Joint proposal authored by U. Chile and U. Duisburg (including UNED, VXU, USB as potential partners)
- Meeting in Santiago de Chile, Dec. 2000
=> association of other interested partners
- Forming of the consortium around CSCL workshop in Duisburg (March 2001)
- Science centre (Xperiment huset, Växjö)
- Open door for associating other institutions: "open user scheme" (WP 7)



General Goals

- Putting new educational technologies in a rich social and global, multi-cultural context
- Building and supporting a heterogeneous community of learners in science and technology (from local to global)
- Blending and integrating different forms of direct and remote experience with computer-supported (collaborative) learning and modelling



“Technical” challenges

- New tools:
 - collaborative modelling tools (extension-diversification)
 - specification, representation, processing of remote observations
 - situation-adapted mobile and wireless devices and smart objects
 - community archives with flexible indexing and access mechanisms



“Technical” challenges

- Integration:
 - synchronous and asynchronous collaboration support
 - integration of virtual (3D) environments
 - extended metadata using session and tool context
 - remote experience and local modelling
 - local experience/modelling and global re-use

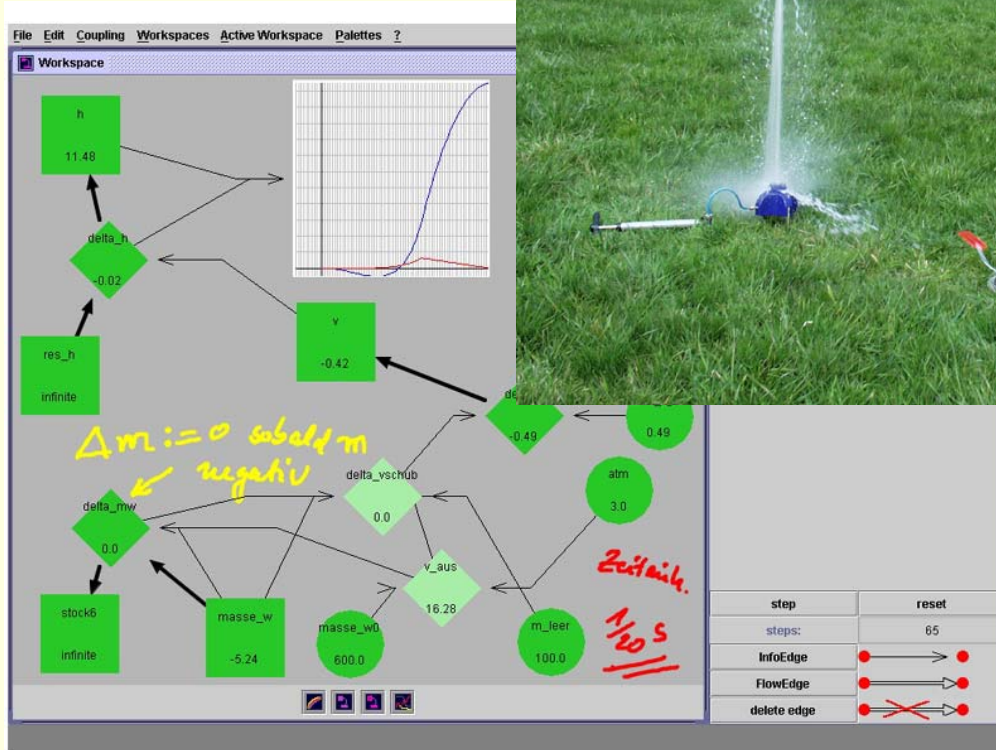


Educational challenges

- Scenarios:
 - > rich possibilities for “experiential learning”
 - > challenge-based learning
 - > digital experimentation toolkits
- Community building, sustainability
- Multi-level community support
- Adapted evaluation methodologies



Experiential Learning



02.07.2003

1st Project Review - Luxembourg



Comparison

- Perspective on individual learning
-> CBT, ITS, ILEs
- Perspective on empowering teachers
-> EU project SEED
- Perspective on community building and
problem-centred dissemination



Scientific background (CSCL)

Computer-mediated
Communication
Scenarios



C
M
C

I
C
E

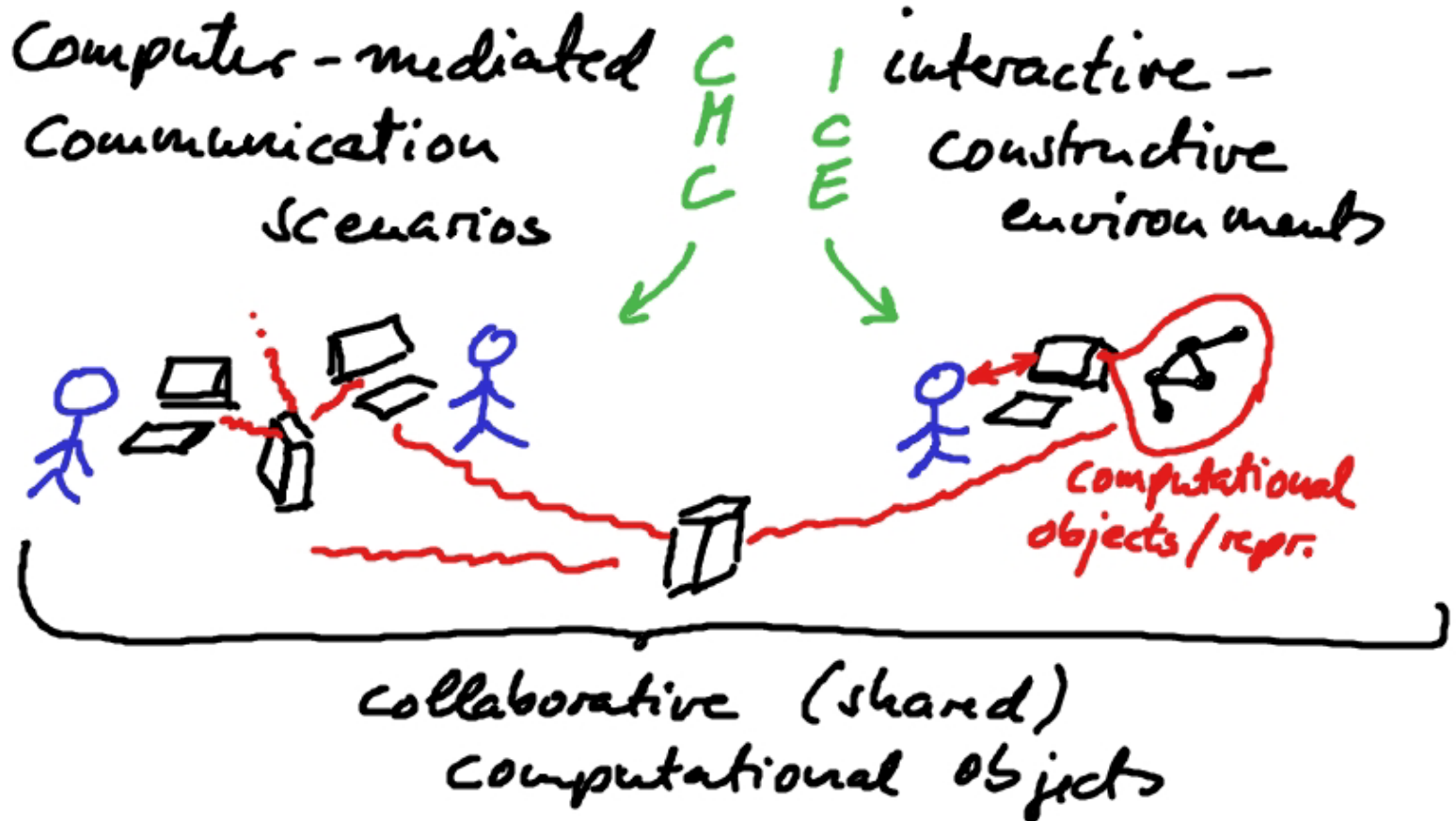
interactive -
constructive
environments



volatility ↔ reification



The current challenge





Collaboration modes

	<i>individual</i>	<i>small group</i>	<i>large group</i>	<i>community</i>
<i>setting(s)</i>	<ul style="list-style-type: none"> - homework - individual studies (e.g. in self-learning centre) 	<ul style="list-style-type: none"> - group work (in school) - afternoon groups - museum user groups 	<ul style="list-style-type: none"> - classes (f-t-f) - courses (also online) - bigger museum visitor groups 	<ul style="list-style-type: none"> - trans-continental network of learners and institutions
<i>knowledge building strategies</i>	<ul style="list-style-type: none"> - indiv. inquiry and problem solving - reading - browsing 	<ul style="list-style-type: none"> - group problem solving - smaller discussions - design meetings 	<ul style="list-style-type: none"> - aggregation / comparison of small grp. and indiv. results - discussions - teacher presentation 	<ul style="list-style-type: none"> - retrieval of others' learning objects - online SIGs - FAQs
<i>cooperation mechanisms</i>	no (instead: access to archives at all levels)	<ul style="list-style-type: none"> - workspace sharing - group archives 	<ul style="list-style-type: none"> - result sharing using big screen - classroom archives 	<ul style="list-style-type: none"> - indirect exchange of learning objects through archives



Partners and Profiles

Partner 1: COLLIDE Group at U. Duisburg-Essen

- *CSCL design and analysis*
- *Theories of collaborative learning and Activity Theory*
- *Synchronous shared workspace systems ("collaborative visual languages")*
- *Ubiquitous computing in learning environments*
- *Visualisation & modelling in local scenarios, esp. models of human perception (co-developer & user)*
- *Remote scenarios (user)*
- *Undergraduate academics (comp. science, comm. and media)*
- *Secondary high school (physics)*



Partners and Profiles

Partner 2: Universidad de Chile, Santiago

- *Telecommunication technologies (-> ACCESS-NOVA)*
- *Distributed classroom technology (CiC)*
- *Educational design (esp. interfaces for blind learners)
remote scenarios (developer & user)*
- *Local scenarios (co-developer & user)*
- *Undergraduate academics (physics, mech. eng.);*
- *School network ENLACES (regional centre)*



Partners and Profiles

Partner 3: Växjö University, Sweden

- *Scientific modelling – system dynamics*
- *Ethnographic studies in education and participatory educational design with teachers*
- *Mobile and wireless technologies in education*
- *Local scenarios, esp. environmental studies and biodiversity (co-developer)*
- *Remote scenarios (user)*
- *Secondary high schools + regional teacher network*
- *Association of "Xperiment Huset" (science centre)*



Växjö: Xperiment Huset





Xperiment Huset

Innovative projects/exhibits

- *spaceship environment as a portal to "space themes"*
- *construction and design of robots etc.*
- *bio-sphere environment*

.... testbed for a variety of learning challenges!



Partners and Profiles

Partner 4: University of Saarland (D)

- *VRML and other 3D modelling languages*
- *Web languages and tools*
- *Programming languages*
- *Educational software for computer science*
- *remote scenarios (co-developer)*
- *Local scenarios (co-developer, esp. 3D modelling tools)*



Partners and Profiles

Partner 5: UNED, Madrid

- *Analysis of collaborative learning (asynchronous)*
- *Activity Theory in educational design*
- *Document structuring and electronic archives*
- *Educational networking, LOR*
- *Local scenarios, esp. environmental aspects (co-developer & user)*
- *Remote scenarios (user)*
- *Academic distance education (chemistry), esp. open access*



Partners and Profiles

Partner 6: U. Politécnica de Madrid

- *Web-based learning environments for engineering*
- *Remote control of experiments*
- *Visualisation & modelling*
- *Remote scenarios (developer & user)*
- *Local scenarios (user)*
- *Undergraduate academics (mech. eng.)*



Partners and Profiles

Partner 7: INESC-ID, Lisboa

- *Animated software agents (incl. VR models)*
- *Agent models of perception and interaction to create "believable characters"*
- *Intelligent support*
- *Local scenarios, esp. models of human perception (developer)*



Partners and Profiles

Partner 8: U. Católica del Norte, Antofagasta

- *Remote scenarios (co-developer, provider)*
- *Potential user (undergraduate acad.),*
- *Link to schools in OUS*



"Near Perspective"

- End of 2003:
 - finalisation of a first set of "DEXT packages"
 - making COLDEX portal and LOR operational
- Spring 2004:
 - first "Open User Scheme Workshop" in Latin America



Scientific Achievements

First IEEE Workshop on Mobile and Wireless Technologies in Education (WMTE 2002)

Växjö, August 2002

CSCL 2003

Interactive event ("Earthquakes and probabilities")

AIED 2003

Interactive event, poster

ED-Media 2003

paper

International Dagstuhl Seminar on eLearning

presentation