IFIP WG's 3.1 and 3.5 (in co-operation with 3.6) Open Conference
Aulanko, Hämeenlinna, Finland, June 13-18, 1999

Communications and Networking in Education:

Learning in a Networked society

IFIP

ComNed'99 www.hyvan.helsinki.fi/tvtok/comned99/

Dear Colleagues

Welcome to ComNEd'99

It is our pleasure to invite fellow researchers, developers, and practitioners of communications and networking in education to participate in this open conference organised by the International Federation for Information Processing IFIP. Through its Technical Committee (TC 3) on Education IFIP enhances good professional practice in the area of educational technology. IFIP's Working groups WG 3.1 (ICT in Secondary Education) and WG 3.5 (ICT in Elementary Education) in association with WG 3.6 (Distance Education) together with local organisers (University of Helsinki, Finnish Information Processing Association, Summer University of Häme, Finnish National Board of Education and Finnish Ministry of Education) will be hosting this unforgettable event.

In ComNEd'99 the broad range of issues associated with the introduction of ICT into school education systems will be explored through more than eighty different presentations from more than twenty countries. Special attention will be paid to give participants an up-to-date and critical review of the state of the art of ICT in Finnish education.

Finland as the host country is not known only for its highly developed educational technologies and fascinating high-tech design but also for the natural beauty of its forests and lakes. You will be surprised of the versatility and quality of music and art included in the programme or available during your stay. Do not miss this unique opportunity to experience them all during the conference week in June.

ComNEd is an investment that needs careful consideration to justify your participation. Realising our responsibility as organisers we are working hard to make every minute of your stay worth the time and money spent. We are convinced that all the ingredients for a successful conference have been identified and are available. A substantial number of active participants will be needed, however, to make a conference a real success. So we hope you'll find ComNed a must.

For further information and registration, please have a look at this brochure and for more details visit our web-site or contact us.

Important dates to remember:

March 12	Last day of early-bird registration
May 10	Last day of registration
June 13	Conference opening

Looking forward to seeing you at ComNEd'99!

Bernard Cornu
bernard.cornu@grenoble.iufm.fr
Chair of the programme committee

Anton Knierzinger
kna@mail.padl.ac.at
Chair of the programme committee

Matti Sinko
matti.sinko@helsinki.fi
Chair of the organising committee

Communications and Networking in Education:

Learning in a Networked society

The International Federation for Information Processing (IFIP) and its Working Groups 3.1 (ICT on secondary education) and 3.5 (ICT on elementary education) in association with 3.6 (distance education) under the Technical Committee on Education (TC3) invite researchers, developers, and practitioners to share their experiences in an Open Conference *Communications and Networking in Education: Learning in a Networked Society, ComNEd'99* .

The conference will take place under the unforgettable northern sun (the sun stays below the horizon four hours only) in the most picturesque Finnish lake district only 100 kilometres from Helsinki in the panoramic settings of Hotel Aulanko, near Hämeenlinna, Finland from June 13th to 18th, 1999 just before the last midsummer festival of this millennium.

The ComNEd '99 conference continues and updates the exploration of a broad range of issues associated with the introduction of ICT into school education systems (pre-school through 18 years) that began when computers first appeared in schools. Recent IFIP Working Group 3.1 & 3.5 open conferences on related themes have been held in Austria (1993), Israel (1996) and Zimbabwe (1997). On this occasion we are pleased that Working Group 3.6 (Distance Education) is also a joint host.

The conference programme has been designed to support and encourage the in-depth treatment of conference topics, informed discussion, the informal exchange of ideas and opinions, and to encourage the establishment of new personal relationships. As on previous occasions, the Conference will provide a stimulating opportunity to work together for a week in the company of other experts in the field from all over the world. Proceedings from the Conference will be shared with the international community through the post-conference publication.

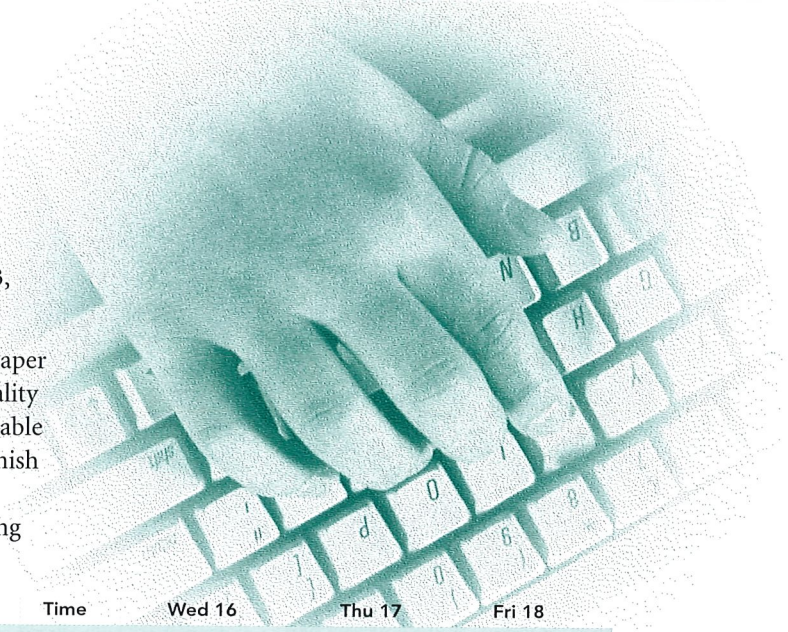
Academic papers, panel discussions, project presentations and keynote lectures will address key issues from a number of perspectives. The arrival of the Internet in schools is, for example, creating opportunities for new ways of working in both traditional classrooms and for distance learners. Several conference sessions will focus on issues in these areas. Additionally, these developments have profound implications for the future role of the teacher and so conference sessions will also address this.

Teacher education is widely seen as the key to bringing about change in teaching and learning but it is also acknowledged to be complex because current teaching practices have deep cultural roots that are closely associated with traditional classroom activities and working patterns. The challenges to both pre-service and in-service teacher education will be widely discussed in sessions.

The availability of ICT in the classroom has provided us with a new dimension in which to explore our understanding of learning processes. Conference papers and discussion will also assess what can be learnt from experiences in this area.

This brochure includes full details of the expected conference programme and it shows how key themes will be addressed. We, the ComNEd'99 organisers, hope you find it exciting and would like to welcome you to meet with us and other colleagues in Aulanko. Several hundred participants are expected from all around the world so please join us!

Programme structure of the conference



The conference will start on Sunday afternoon, June 13, and will close on Friday June 18 by lunch-time.

The programme consists of keynote lectures, parallel paper sessions, theme panels, demonstrations, and as a speciality an action–reaction session. Poster sessions will be available as well. One afternoon and evening is dedicated to Finnish presentations, and another one for social and cultural programme on the Finnish countryside notwithstanding Sauna.

Sun 13	Mon 14	Tue 15	Time	Wed 16	Thu 17	Fri 18
	Breakfast	*Breakfast*	7	*Breakfast*	*Breakfast*	*Breakfast*
	Opening Ceremony Keynote	Action - Reaction session Papers Papers	9 10	Keynote *Coffee*	Action - Re action session Papers Papers	Papers Papers Papers Papers Papers
	Coffee	*Coffee*	10.30	Papers Papers	*Coffee*	*Coffee*
	Papers Papers Papers Papers Papers Papers	Theme Theme Panel Panel	11	Papers Papers Papers Papers Papers Papers	Theme Theme Panel Panel	Keynote Closing Ceremony
Regist-ration	*Lunch*	*Lunch*	12.30	*Lunch*	*Lunch*	*Lunch*
	Theme Theme Panel Panel	Finnish plenary & parallel presentations	14	Cruise &	Papers Papers Papers Papers Papers Papers	
Sightseeing of Hämeenlinna and bus transfer to the town centre	*Coffee*	*Coffee*	16	Excursions in	*Coffee*	
	Papers Papers	parallel presentations	16.30	Häme region	Papers Papers Papers Papers	
Welcome reception	Papers Papers Demos Posters	continue	— 18.30		Demos Posters	
Bus service back to Aulanko						
Buffet	*Dinner buffet*	Finnish Evening Sauna Midnight swim	19	*Dinner buffet*	*Dinner*	

Conference activities

The Keynotes

The keynote talks, present an overview of the conference themes. The speakers are as follows:

Margaret Riel, Associate Director, Center for Collaborative Research in Education, University of California, Irvine. She took her Ph.D at the University of California, Irvine and is known for designing a networking program "Learning Circles" for elementary and secondary schools. The title of her keynote speech at ComNED´99 (via videolink) is *Learning Spaces of the Future – Where are we heading?* You can find out more about her on her web-pages: www.gse.uci.edu/mriel.html/

Alexei Semenov, Doctor, President of Institute of New technologies, Moscow, Russia. The title of his keynote is *Technology and School Transformation.*

Erno Lehtinen is professor of Education and dean of the Faculty of Education at the University of Turku, Finland. He received his Ph.D. from the University of Turku and took his post-doctoral studies in the Department of Educational Psychology at the University of Bern, Switzerland. He has been a visiting research scholar at the University of Edinburgh and in the Learning Research and Development Center at the University of Pittsburgh. His research interests relate to learning research, particularly in the learning of advanced mathematics and complex skills. Recently his research has focused on the possibilities of implementing the theories of cognitive science in the development of computer-based learning environments.

The title of his keynote is: *Information and communication technology in education: desires, promises, and obstacles.*

Keynotes

The keynote talks, three in all (45 minutes each) present an overview of the conference topics and of its themes.

Paper sessions

Paper sessions are parallel plenary sessions. All papers will be available for participants on arrival at the conference in the pre-conference proceedings. In the paper sessions two to three speakers will present their papers in 20—25 minutes each and ample time will then be provided for discussion. Conference participants are strongly encouraged to discuss the papers with presenters and other colleagues. These discussions will form one of the essential and most rewarding features of the conference.

Theme Panels

Theme Panels provide an opportunity for participants to be involved in group discussions, sharing point of view and experiences, and engaging in debate. Members of Theme Panels will each make a 5 minute presentation before the debate is opened up to all those present.

Project Theme Panels and Demonstrations

Teams involved in major projects (many of them involving international links) will present their work in panel sessions that are each dedicated to a project. Following a substantial presentation there will be time to discuss the details of the project and its wider implications.

Action - Reaction Sessions

In addition to the presentation of papers, Action – Reaction sessions will include short prepared reactions to those papers. There will also be time for further discussion of the issues between all those present.

Poster Sessions

Poster and demonstration sessions provide an open forum for participants to make small presentations to facilitate the exchange of views between participants.

Participants who want to demonstrate software and other learning materials to other participants may do so in the demonstration room.

Exhibition

During the conference there will be an opportunity to get acquainted with Finnish educational ICT projects as well as commercial products. Potential commercial as well as non-commercial exhibitors are welcome to contact the organising committee members for more information.

Social Programme

Aulanko is an excellent venue to get acquainted with Finnish culture. Hämeenlinna is a regional centre of Häme built around a medieval castle which is well restored and worth visiting.

Participants will be taken to two separate excursions. On Tuesday evening there will be a visit to Vanajanlinna, a Manor house which has a very special place in the Finnish history. There will be musical programme. The dinner will be served in a unique atmosphere. Participants have also an opportunity to go bathing in Sauna and swim in the lake in the famous northern summer night light.

On Wednesday we will get on board and cruise on the lakes of Häme. One stop will be in the horticultural college providing among other things a rare opportunity to taste Finnish wine. Another stop will be at a forest studio of a Finnish artist of early 20th century. Participants will also have an opportunity to stop by a glass factory where famous Finnish design glass is produced, exhibited, and sold.

Conference venue

The ComNEd'99 will take place at the Hotel Aulanko, 4 kilometres from Hämeenlinna town centre, 105 kilometres from Helsinki. Participants are expected to lodge in the hotel. All professional events of the conference will take place within the hotel premises in lecture halls equipped with full computing and audiovisual facilities. Participants will have free access to computing equipment and software (wordprocessors, email, access to the web, etc.) and will be offered opportunities to run and demonstrate their own materials.

Aulanko offers experiences never to be forgotten. Saunas and an inner swimming pool are freely at guests disposal every morning. On your leisure time you can try Aulanko's fine golf course, horseback riding, or experience the beauty of Finnish watering courses on a cruise or take a walk in the near by forest.

Technical facilities

PCs with standard presentation software and data projectors as well as VHS videos are available for all presentations. Videos with NTSC can be provided on request. For personal use a computer lab with Internet connections will be built.

Organising Institutions

The International Federation for Information Processing

The International Federation for Information Processing (IFIP) is a multinational federation of professional and technical organisations concerned with information processing, that was founded in 1960 under the auspices of UNESCO. IFIP is dedicated to improve worldwide understanding about the role information processing can play in all walks of life, and to increase communication among practitioners of all nations. Members of IFIP are national organisations in the field of information processing.

Technical and scientific work which is at the heart of IFIP's activities is managed by a series of Technical Committees (TC). Each TC is composed of representatives of IFIP member organisations. TC 3 is on Education. Under each TC there operate Working Groups which consist of specialists who are individually appointed by their peers independently of nationality.

The IFIP Working Group 3.1 on ICT in Secondary Education

Working Group 3.1 (WG 3.1) has its focus on Information and Communications Technologies(ICT) in Secondary Education. In the last decade WG 3.1 has organised several working and open conferences, of which the last ones are: *"Information technology: supporting change through teacher education"* (together with WG 3.5), Kiryat Anavim, Israel (1996), *Capacity Building for IT in Education in Developing Countries, CapBIT'97* (together with WG 3.4 and 3.5), Harare, Zimbabwe (1997) and *"Secondary school mathematics in the world of communication technologies: learning, teaching and the curriculum"* Villard de Laus-Grenoble, France (1997). WG 3.1 also regularly produces "Guidelines for Good Practice", and has elaborated for UNESCO a "Curriculum for schools: Informatics for Secondary Education".

The IFIP Working Group 3.5 on ICT in Elementary Education

Working Group 3.5 (WG3.5) focuses on ICT in Elementary Education. The scope of this group covers both pre-school and elementary school. By itself and in co-operation with other Working Groups it has organised several conferences in the last decade. Recent conference themes have included teacher education (pre-service and in-service), ICT in developing countries, the changing role of teachers and learners, and national policies regarding ICT in the curriculum.

The IFIP Working Group 3.6 on Distance Education

The aim of the working group is to investigate the pedagogical use of ICT 1) in the classroom, 2) in distance education 3) in open, flexible and distance learning. The focus of the work will be on: administrative as well as pedagogical issues plus technological opportunities applied on: 1) The Virtual University ; 2) The Global School; 3) Global Resources on the Internet with respect to communication, interaction and information. The working group's activities are mainly working conferences, workshops and open teleteaching conferences.

University of Helsinki

University of Helsinki is the largest and oldest university in Finland. Founded in Turku in 1640, the University moved to Helsinki in 1828. The University of Helsinki has nine faculties: Theology, Law, Medicine, Arts, Science, Education, Social Sciences, Agriculture and Forestry, and Veterinary Medicine.

There are more than 32 000 students (61.4% women, 6.8% Swedish-speaking), 1 258 foreign students, 2 500 academic staff, 3 584 other staff.

June 13-18, 1999

Communications and Networking in Education:

Learning in a Networked society

SUNDAY

13.00	***Registration desk opened***
17.00	Combined Sightseeing of Hämeenlinna and bus transfer to the town centre
17.30	***Welcoming Reception***
18.30	Bus service back to Aulanko
19.00	***Buffet***

MONDAY

7.00 *Breakfast restaurant, swimming pool & saunas open*

9.00 Opening ceremony

9.30 ***Keynote Speech*** : **Alexei Semenov** Institute of New technologies: Technology and School Transformation

10.30 *Coffee*

11.00

Constructivist approach Paper session

•**Pamela Gibbons, Kathryn Crawford, Susan Crichton, Robert Fitzgerald**, Cognition and Information Technologies in Context

Psychological issues Paper session

•**Yacoov Katz**, The Comparative Suitability of Three ICT Distance Learning Methodologies for College Level Instruction

11.30

•**Enrica Lemut, Simonetta Greco**, Technology and Systemic Thinking in Mathematics

•**Juhani Tuovinen**, Research Framework and Implications for Online Multimedia Education Practice Based on Cognition Research

12.00

•**Qi Chen**, Use ICT to support Constructive Learning: Create an Interactive Multimedia-Based Learning Environment

•**Steve Wheeler**, Caught in the Spotlight: User Reactions To Videoconferencing

12.30 *Lunch*

14.00

Panel session

•**Petra Fisser**, The vision of a telematics university: using ICT to support instructors and students

•**Andrea Ko, Andras Gabor**, Knowledge Society Challenges the Higher Education?

Other presenters

•**Takashi Sakamoto**

•**Larry Miller, Jillian deJean, Rebecca Miller**

Giovanna Gazzaniga

Demonstration: EUN Schoolnet

•**Ella Kiesi, *Virtual School***

•**Tim Denning**, Pedagogical Guidelines for the Professional Development of Teachers

Panel session

•**Lasse Lipponen, Kai Hakkarainen, Hanni Muukkonen & Marjaana Rahikainen**, Promoting Educational Change with Computer-Supported Collaborative Learning

•**Paul Nicholson**, Linking science thinking and learning with software

•**Anne McDougall**, Issues in learning with new technologies

•**Michel Arnaud**

16.00 *Coffee*

16.30

Teacher education & Pedagogy (Informatics Curriculum) Paper session

•**Peter Hubwieser, Manfred Broy**, Educating Surfers or Craftsmen: Introducing an ICT Curriculum for the 21st Century

•**Valentina Dagiene**, Programming-based Solution of Problems in Informatics Curricula

The Classroom Paper session

•**Rosa Maria Bottino**, Computer-based Communication in the Classroom: Defining a Social Context

•**Eveline Riedling, Alexander**

•**Wahler, Klaus Niederarcher**, IGL - A Concept for an Interactive Growing Learning System

17.30

Demonstrations

•**Frank Brooks**, Studentnet, Building On-line Learning Communities

Demonstrations

•**Kathy Seddon**, Butterfly's Sight an innovative Website for the "School of the Future"

Poster sessions

•**Harriet Taylor**, The WebQuest Model for Inquiry-Based Learning Supported by the WWW

•**Li Yueyi**, The Design of the Internet-based resources Bank for Teaching or Learning

•**M.J.Verdu**, A CD-ROM/internet Experience for Primary and Second-ary Education

Poster sessions

•**Elena Osipova**, Providing Effective Autonomous Learning within the Framework of Existing Educational System in Russia

•**Kersti Hjertqvist**, Flexible Learning for the Inhabitants in the city of Stockholm

•**Bruce Fairfax**, Independent Learning

18.00

•**Andrey Narvsky**, Education Project – Joint Cultural Heritage without Borders

•**Helmut Stemmer**, This is no normal museum, museum@online

19.00 *Dinner*

TUESDAY

7.00 *Breakfast restaurant, swimming pool & saunas open*

9.00

Action-Reaction Paper session Teacher education, pedagogical reflection

•**Gail Marshall**, Meaning Making: The Connection between Teacher, Student and Curriculum in ICT Environments

The Classroom, Paper session

•**Steve Kennewell, Howard Tanner, John Parkinson**, A Model for the Study and Design of Teaching Situations with ICT

Paper session

•**Giovanna Gazzaniga**, Is Distance Learning worth just for Real Distance Students?

9.30

•**Don Passey**, How will teachers be prepared for the connected learning community?

•**Wang Jiqing, Lu Hong**, A Web-based Instruction Network in a School in China

•**Avril M. Loveless**, Creativity, Visual Literacy and Information & Communications Technology (ICT)

10.00

•**Marta Turcsanyi-Szabo**, Imagine a Tool to Express and Explore

10.30 *Coffee*

11.00

Paper session

•**Vladimir Batagelj, Alenka Zibert, Vladislav Rajkovic, Borut Campelj**, Educational Networks Vision and Reality

•**David Passig, Sigal Eden**, Enhancing the Induction Skill of Hearing Impaired Children with Virtual Reality Technology

•**Lesley Shield**, The Fluent Project: Creating Richer Online Communities to Support the Distance Language Learner

T3, Panel session: Support and collaboration of autonomous learners in a European context Chair: Ineke Lam

Presenters: **Niki Davis** (by videolink), **Jyrki Pulkkinen, Donatella Persico, Andree Klein**

Panel: **Pulkkinen** (Finland), **Persico** (Italy), **Godinet** (France), **Lockhorst** (Netherlands)

EE Net, Panel session Chair: Raymond Morel

Presenters: **Helmut Stemmer** (Austria), **Liisa Lind** (Finland)

12.30 *Lunch*

14.00

Finnish session

•**Matti Sinko** and **Ella Kiesi**, ICT in Finnish Education: Elaborate Strategies and the Rugged Reality?

Finnish parallel sessions

15.00

•**Minttu Ollila,** Matilda – Telematic Litterature Circle

•**Teemu Leinonen**, FLE-tools: A WWW-based Application for Collaborative Learning

•**Jari Ikola**, The Teacher's changing role in distance learning in maths in Kaukajärvi Upper Comprehensive School

•**Erkki Pitkänen and Päiviö Peltokorpi,** Creating and Developing a Centre for Distance Education

16.00 *Coffee*

Parallel sessions continue

Riitta Karvinen: Helsinki welcomes all to Netd@ys '99

FINNISH EVENING: DINNER, MUSIC SAUNA, MIDNINGHT SWIM AT VANAJANLINNA

19.00

WEDNESDAY

7.00 *Breakfast restaurant, swimming pool & saunas open*

9.00 *Keynote Speech*: **Margaret Riel,** Center for Collaborative Research in Education, California: Learning Spaces of the Future - Where are we heading?

10.00 *Coffee*

10.30

Computer-mediated Communications learning process
Paper Session

•**Michelle Arnaud**, Towards a more effective educational use of Internet. Case study in Parthenay, Srasbourg, St Laurent de Neste and Vienne (France)

Changing the role of the teacher
Paper Session

•**Joy Murray**, Computer Technology and Teacher Development: A Program to Support PedagogicalChange´

11.00

•**Terence R. Cannings, Sue G Talley**, Online University Degree Programs: Changes in Learning and Teaching

•**Tony Fisher**, Teacher Professionalism and the Use of Multimedia Portable Computers with Internet Capability

11.30

•**Kate Denning, Mike Davis**, Computer-mediated Communication in Adult Education: An Emerging Pedagogy

•**Svetlana Kudrjavtseva, Valentina Kolos**, Information and Communication Technologies in Distance Learning Process in Ukraine

12.00

•**Carolyn Dowling**, Social Interactions and the Construction of Knowledge within Computer Mediated Learning Environments

12.30 *Lunch*

14.00

CRUISE & EXCURSIONS IN HÄME REGION

•Lepoa horticultural college
•Visavuori studio
•Iittala glass factory

19.00 *Dinner BUFFET*

THURSDAY

7.00 *Breakfast restaurant, swimming pool & saunas open*

9.00

Paper session

Josie Hopkins, Using an Intranet for Curriculum Clues and Creative Connections

Action-Reaction Virtual School, Paper session

David Passig, Aviva Sharbat, A Preferred Future Pedagogic Mission for Using Virtual Reality in Schools: An Imen-Delphi (ID) Exercise with a Group of VR Scholars and Developers

Teacher professional developement, Paper session

Barry H Blakeley, Target Setting and Action Plans - Improving Communication

9.30

•**John Parkinson, Steve Kennewell & Howard Tanner**, Planning for a Cross Curricular Approach to the Development of IT Capability

•**Wolfgang Weber, Annemarie Hauf-Tulodziecki**, Learning with New Media - Media Literacy

•**Giampaolo Chiappini, A. Chioccariello, C. Gibelli Collaborative** Teacher Training Through Telematics

10.00

•**Seija Mahlamäki,Leena Kallio, David Horsburgh, Geoff Davison**, Developing CD-ROM-Pedagogy in a team of Reflecting Practitioners

•**Helene Godinet, Andrée Klein**, The teacher as a Mediator in a Networked Society

10.30 *Coffee*

11.00

Panel session. The Impact of the Internet on the role of the teacher. Chair: David Benzie

•**Torlaug L Hoel**, Using the Internet to Train and Support Mentor Teachers
•**Heikki Kynäslahti**, The Roles of the Teacher and the Emergence of Distance Education in Finnish Schools
•**Yvonne Buettner**, Hello again?
•**Other presenters**
•**Helene Godinet, Andrée Klein**

Fetiche, Panel session, Chair: Bernard Cornu

Nordic Panel. What lessons can be learned from the Nordic Experience? ***Chair: Mike Aston***
In the panel: **Peter Bollerslev, Matti Sinko, Ulf Wasström, Sindre Røsvik**

Trends, Panel session

12.30 *Lunch*

14.00

Autonomous learners, Paper session

•**Paola Forcheri, Maria Teresa Molfino** ICT as a Tool for Learning to Learn

Changing the Role of the Teacher, Paper session

•**Gianna Avellis, M.Capurso**, ERMES Evaluation Methodology to Support Teachers in Skills Development

14.30

•**Akiko Inaba, Junichi Toyoda**, Discussion Animator: A knowledge-based system to encourage learners to collaborate

•**Shane Mallam**, The Teachers are not Keeping up. And Things are Getting Worse

15.00

•**Katherine Sinitsa, Alla Manako**, Extending glossary role in a virtual learning environment

•**Larry Miller, Jillian DeJean, Rebecca Miller**, Ships Passing in the Night: Teacher´s Existing Curricula and Curricula Embedded in a Computer-based Integrated Learning System

15.30

•**Jose Bravo, M.Ortega, M.F.Verdejo**, Planning in Distance Simulation Environments

•**David Squires**, A Teacher's PET for the Millennium

16.00 *Coffee*

•**Tomi Nummi, Riikka Ristola, Aarno Rönkä & Janne Sariola,** Approaching Pedagogical Networking through Teacher Education
•**Christos Bouras, Dimitris Fotakis, Agisilaos Konidaris, Afrodite Sevasti**, Virtual Environments in Educational Networks

•**Kaye L Nebauer**, Measuring the Performance of Public Education System Internet Web Sites
•**Mike Kendall**, The Birmingham Grid for Learning: schools as partners in creating a learning city

•**William Haworth**: The WELL project

17.30

Demonstrations:

•**Marie Grabar** and **Yew-Lee Tan,** Using the WWW for Teaching and Research

Demonstrations:

•**Ruth Vilmi**, Linking Reality with Virtual Reality: Projects for Learners in a Networked Society

Poster sessions:

Roman Baranovic and **Maria Nemethova**, ITC in Summer Out-of-School Activities
•**Minoru Kiyama**, Networked based courseware reuse and trade systems in CALAT project
•**Makoto Takeya**, The Virtual School Construv´cted by the Virtual Reality Modelling Language through the Internet
•**R.M. Bhatt**, Impact of Emerging Technologies for Education

Poster sessions:

Antonio S Neto, Education in the Interactive Age
•**Isabel Chagas, João Sousa and Rosa Tripa**, Assisting Teachers Innovating their Classroom Practices on ICT
•**Juha Turpeinen**, The KYTKE Project on the Development of Education in Technology and Entrepreuneurship in Finland as an Example

18.00

•**Annbjørg Hansen anad Kari Strømme,** Placing Teachers in Haram Community "on the map"

•**C. Vargus**, Learning Spanish

19.00 *Dinner*

FRIDAY

7.00	*Breakfast restaurant, swimming pool & saunas open*	
9.00	***Online education, Paper session*** •**Hisao Koizumi, Takashi Dasai, Kiyoshi Yokochi, Klaus D. Graf, Seiji Moriya,** An interactive Distance Learning System and Verification Experiments between Japan and Germany	***Changing the role of the teacher, Paper session*** •**John Pearson,** Lurking Anonymity and Participation in Computer Conferencing: data from a case study on an initial teacher education course
9.30	•**Vittorio Midoro,** Modelling Online Education	•**Jack Carter, Beverly J. Ferrucci** Changing the Curriculum for Prospective Elementary School Teachers: Mathematical Web Site Constructions
10.00	•**Michelle Selinger,** Authentic tasks and the Internet in Schools	•**Paul Nicholson,** Virtual Teacher? Virtual Practicum
10.30	*Coffee*	
11.00	Keynote Speech: **Erno Lehtinen,** University of Turku, Information and communication technology in education: desires, promises, and obstacles	
12.00	*CLOSING CEREMONY*	
12.30	*Lunch*	

In ComNEd '99 the broad range of issues associated with the introduction of ICT into school education systems (pre-school through 18 years) will be explored through the following themes:

Theme 1: Learning processes and ICT

Theme 2: Supporting autonomous learners

Theme 3: The changing role of the teacher

Theme 4: Creating the school of the future

Theme 5: School systems in a networked society

Theme 6: The social context of learning

IT Centre for Schools

The Helsinki University Centre of Continuing Education communicates academic know-how and research results to the public at large. It runs a network of independently administered specialised institutes across Finland one of them being Vantaa Centre for Continuing Education, the base for IT Centre for Schools.

I T Centre for Schools provides

- ICT courses across the curriculum
- study programmes in educational software and multimedia design

IT Centre's research and development activities cover also

- curriculum development projects with schools
- developing innovative and interactive learning environments

Our information services

- active participation in national and international community of developers of ICT in education
- consulting in implementing and evaluating ICT policy on local, national and international level

Staff mounts up to 30 at the moment.

Finnish Information Processing Association

Today the Finnish Information Processing Association (founded in 1953) consists of 24 member societies, which jointly have as members some 24 000 individuals as well as nearly 700 companies and other types of organisations. The majority of these member societies operate regionally to promote professional growth of IT professionals and to provide them with an informal platform for discussing current issues of the field. They offer various types of activities, such as seminars, training, get-togethers with guest speakers, leisure activities, etc. Issues of particular interest for the Association frequently include the creation and revisions of Finnish law, such as questions about data security and copyright protection. One of the key tasks is to act as a sponsor and organiser of research projects of national significance in the IT field.

The association is a member to the following international societies: CEPIS, IFIP, ICC, NDU.

Summer University of Häme

Summer University of Häme was founded to cover regional educational needs and is now administrated by the Regional Council of Häme. The co-operation with universities is close, particularly in the case of open university teaching. In 1997 our summer university arranged 154 courses for 3776 students. Courses are open to everyone irrespective of age and education. Our programme is carried out according to the requirements of the universities.

Summer University of Häme arranges also supplementary courses especially in the subjects of education, health care and social sciences to develop professional skills or to provide stimuli.

Finnish National Board of Education

The National Board of Education is the national agency of expertise under the Ministry of Education covering areas of general education, vocational education and training and adult education. The agency is specialising in producing and marketing development, evaluation and information services to the owners and managers of schools and educational institutions, to teachers, to policy makers and working life:

- implementing the national educational policy
- co-operating in partnerships at home and abroad
- steered by the client's needs and striving for quality
- aiming at efficiency, effectiveness and economy.

Finnish Ministry of Education

Education and research are crucial factors for the development of Finland as an information society. In the information society, knowledge is the key resource. Advances in technology which facilitate production and improve communication have an essential effect on the structure, content and methods of education and resources. In 1995 the Ministry prepared a national strategy for education, training and research in the information society for the years 1995-1999. The programme has been recently updated for the years 2000-2004. Both programmes will be discussed in ComNEd.

Supporting this event is a clear signal from the Ministry of its sustained commitment to fully implement the national information society strategy.

Miscellaneous Information

Money

The currency is the Finnish Markka (FIM). The exchange rate was in January 1999 about 5,14 FIM= 1US$. Major credit cards are accepted in most places. Several banks have offices in Hämeenlinna. However, since banks are closed on Saturdays and Sundays (except in the Helsinki—Vantaa airport), you should obtain some cash in FIM in advance or at your arrival at the airport.

Weather

The weather is somewhat unpredictable in mid-June. It can be warm (up to 25 C) and sunny, or rainy. Evenings are sometimes quite cool in June (sometimes even down to 5 C). If you have a sensitive skin, you may need protection against early summer mosquitoes (repellents available at the hotel). Because the venue is excellent for all kinds of sports activities, sports and swimming gears are recommended.

How to reach Aulanko

Step 1. To Helsinki—Vantaa airport by plane. (You may arrive also by boat across the Baltic sea or by train or car from or through Scandinavian countries, Baltic countries or Russia).

Step 2. By bus to Hämeenlinna city (90 kms) directly from the airport or by shuttle bus to Helsinki city centre (20 kms from the airport) and from there by train or bus to Hämeenlinna (105 kms).

Buses to Hämeenlinna directly from the airport approximately every hour (9.20, 10.20, 12.15, 13.20, 14.15, 15.20, 16.35, 17.35...the last 23.45)

There is a shuttle bus to Helsinki city centre (the main railway station) every 20 minutes from the airport.

Timetables for buses and trains from Helsinki to Hämeenlinna can be easiest obtained from the following www-addresses:

trains: http://www.vr.fi/heo/english/heo.htm (look for connections Helsinki-Tampere, Hämeenlinna is on the way)

buses: (to Hämeenlinna or Tampere) http://www.expressbus.com/

Step 3. From the town centre or the railway station to Aulanko (3–4 kms) by local bus (numbers 2 and 13) or taxi.

Electricity supply

The voltage in Finland is 230V 50 Hz. Continental European plug.

Further information

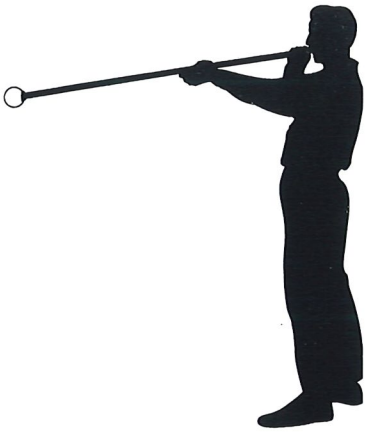
An interesting information package is available on the web giving plenty of information about the conference, including registration, organisers, tips for travellers, regional and Finnish culture, etc. Please visit our web-site at the URL: http:// www.hyvan.helsinki.fi/tvtok/comned99/. The pages will be updated regularly.

ComNEd sponsors:

Academy of Finland
Finnish Information Prosessing Association
Finnish Ministry of Education
IFIP
National Brand of Education

SITRA Finnish National Fund for Research and Development – Sitra

Welcome to the iittala glassworks, museum and factory shop!



iittala
FINLAND

TIEDOSTOKIRJASTO

EDITA

Edita Online Books

Edita has been publishing online books in Finnish since 1997. We offer a selection of two hundred titles in pdf, html or exe format. The titles range from new media to program manuals. Some fiction titles are also included. New titles are developed constantly according to the customers' needs and wishes.

You will find more information on Edita's online services on the Internet:
http://www.edita.fi/netmarket/sahkoiset/

ComNed'99 Registration form *Finland, June 13–18, 1999*

PARTICIPANT

FAMILY NAME: _____ FIRST NAME: _____

INSTITUTION: _____

ADDRESS: _____

POST CODE: _____ TOWN: _____ COUNTRY: _____

TELEPHONE: _____ FAX: _____

E-MAIL: _____

ACCOMPANYING PERSON

FAMILY NAME: _____ FIRST NAME: _____

A. REGISTRATION AND ACCOMMODATION FEES

Costs for	**Until March 12**	**After March 12**
participants and accompanying persons	***FIM***	***FIM***
registration fee	***2150***	***2650***
registration fee for an accompanying person	350	450
full board in a double room	2620	2620
full board in a single room	3420	3420
accomp person in a double room (full b.)	2620	2620
meals without hotel accommodation	1015	1015
lunch and coffees only	625	625
post-conference book	***310***	***310***

B. EXTRA NIGHTS HOTEL ACCOMMODATION REQUEST

Before the conference from June 12 1 night single FIM 480
Before the conference from June 12 1 night double / p FIM 320

After the conference from June 18 to June _____ nights single x FIM 480
After the conference from June 18 to June _____ nights double / p. x FIM 320

Total cost of extra nights _____ **Total payment (A+B)** _____

PAYMENTS SHOULD BE MADE
1) By a Credit Card ☐ Visa ☐ Eurocard/Mastercard

Card n:o _____ Date of expiry (m/y) _____Signature_____

2) By a bank transfer (also send the corresponding statement established by your bank to the Conference secretariat together with your registration form) to Summer University of Häme. Bank: Merita Bank Ltd. Account number: MRITFIHH 204718-30131

SPECIAL REQUESTS
People in need of special services or attention (special diet, persons with small children, etc.) are invited to specify their requirements and send this information attached to this form to the conference secretariat.

IFIP WGs' 3.1 and 3.5 (in co-operation with 3.6) Open Conference
Hämeenlinna, Finland, June 13—18, 1999

Communications and Networking in Education: Learning in a Networked Society

ComNEd'99

IFIP

IFIP WGs' 3.1 and 3.5 (in co-operation with 3.6) Open Conference
Aulanko, Hämeenlinna, Finland, June 13—18, 1999

ComNEd'99

Communications and Networking in Education: Learning in a Networked Society

The International Federation for Information Processing (IFIP) and its Working Groups 3.1 (ICT on secondary education) and 3.5 (ICT on elementary education) in association with 3.6 (distance learning) under the Technical Committee on Education (TC3) invite researchers, developers, and practitioners to share their experiences in an Open Conference *Communications and Networking in Education: Learning in a Networked Society, ComNEd'99* in Aulanko, Finland.

The conference will take place under the unforgettable northern midnight sun near one of the most picturesque Finnish lakes from June 13 — 18th, 1999 just before the last midsummer festival of this millennium. The venue is the panoramic setting of Hotel Aulanko, near Hämeenlinna Finland, only 100 kilometres from Helsinki.

In ComNEd '99 the broad range of issues associated with the introduction of ICT into school education systems (pre-school through 18 years) will be explored through the following themes.

Theme 1: Learning processes and ICT
Theme 2: Supporting autonomous learners
Theme 3: The changing role of the teacher
Theme 4: Creating the school of the future
Theme 5: School systems in a networked society
Theme 6: The social context of learning

In addition to their regular own working conferences IFIP WGs 3.1 and 3.5 there has been a series of joint open conferences starting in Gmunden in 1993, followed by conferences in Kiryat Anavim in 1996 and Harare in 1997. This time also WG 3.6 (on distance education) wished to take part thus providing even a wider forum for professional users and developers of educational ICT. Through collegial and special organisational features, these joint events allow in-depth treatment of the conference topic, in-depth discussion, informal exchange of ideas and opinions, and will encourage the establishment of new personal relationships. Working together for a week in the company of other experts in the field from all over the world will provide a stimulating experience. Results of the conference will be shared later with the international community through the post-conference publication within a few months after the conference.

The ComNEd'99 organisers welcome all colleagues to Aulanko, Finland. Several hundred participants are expected all around the world. Special arrangements will be made to facilitate participation of colleagues from developing countries.

Themes of the conference

Information and Communications Technologies (ICT) have already had a significant impact on education in many countries around the world. In most schools the dominant supporting technology has been either the stand-alone personal computer (PC) or a modest local area network. This situation is, however, changing rapidly as a rising number of schools provide access to the Internet for their staff and their pupils. The issues related to this change have been grouped into six major themes which, taken together, will provide the overall focus for the conference.

Theme 1: Learning processes and ICT

The availability of ICT provides us with a new dimension to the challenge to understand the process of learning. Historically, many models of the learning process have been offered but are they robust enough to account for the ways in which pupils learn about and with ICT?
Contributions to this theme will address questions such as:

- How do pupils learn with and about ICT?
- What is knowledge in an ICT dominated world?
- Can ICT be used to support any pedagogy?
- Do traditional models of cognition adequately account for learning in an ICT rich environment?
- What are the consequences for the learning environment of our understanding of how learning occurs when ICT are available?

Theme 2: Supporting autonomous learners

Many have claimed that in future an individual´s ability to manage his/her own learning will be seen as a key skill. This ability is also seen as a critical attribute for effective life-long learning.

It has also been claimed that ICT can make a distinctive and effective contribution to the development and support of autonomous learners. Consequently, contributions to this theme will address questions such as:

- What are the key attributes of an effective autonomous learner?
- How can ICT be used to support the development of those attributes?
- How can ICT be used to enable groups of autonomous learners to collaborate and support one another?
- How can schools give pupils the opportunity to develop those skills?

Theme 3: The changing role of the teacher

Individual teachers play the most significant role in shaping the learning environment for pupils. ICT are often associated with changes in both learning activities and learning objectives for pupils and this has an inevitable impact on the role that the teacher is asked to play. However, new teaching strategies are far from self-evident and so teachers themselves need the opportunity to develop new classroom skills whilst receiving support.

Against this background, contributions to this theme will address questions such as:

- What is the role of the teacher in ICT rich learning environment?
- What is the impact of ICT on pedagogy?
- How can we motivate and support teachers as they develop new skills?
- Can ICT be used to support teacher communities and hence facilitate change?
- How can ICT be used to support pre-service and in-service teacher education?

Theme 4: Creating the school of the future

Schools are still organised in very traditional ways. The subject structure of the curriculum would largely be recognisable to pupils from past generations and teaching generally proceeds on the assumption that all relevant information can be provided by the teacher together with a few books that can be made available in school.

ICT present a challenge to these assumptions by creating the possibility of alternative, or at least modified, patterns of activity. In view of this, contributions to this theme will address questions such as:

- What should we be aiming for when creating 21st century schools?
- What are the consequences of ICT for curriculum organisation?
- How can we manage change associated with the introduction of ICT into school?
- What opportunities for schools are created by the widespread availability of ICT in the home?

Theme 5: School systems in a networked society

Schools are generally seen as discrete institutions where pupils and teachers meet at fixed times. ICT create the possibility for greater community involvement in education, for pupils to work and learn at times and places that are unconstrained by timetables and geography, and for widespread co-operation in education.

The challenge presented to school systems by ICT will be explored in this theme through papers that address questions such as:

- Is the virtual school possible? If so, is it desirable?
- Does schooling have to take place at fixed times with all pupils present?
- How can we use ICT to involve the wider community in school education?
- What are the implications of ICT for the organisation of school education at global, national, and regional levels?
- How can national organisations use ICT to support pupils and teachers?

Theme 6: The social context of learning

ICT provide unconstrained access to vast collections of information but that access has costs and dangers associated with it. Cultural and language domination is a serious possibility and there are significant equity issues associated with access to the technology.

These and other related issues will be explored in this theme by papers addressing questions such as:

- Can ICT be used to help pupils to respect and value cultural and linguistic diversity?
- What can schools do to ensure that all pupils have the opportunity to become capable users of ICT?
- What value systems are we implicitly promoting through our use of ICT in schools?

Programme structure of the conference

The conference will start on Sunday afternoon, June 13, and will close on Friday June 18 at lunch.
The programme consists of keynote speakers, parallel paper sessions, theme panels, and as a speciality action - reaction sessions. Poster sessions will be available as well. One afternoon and evening is dedicated to Finnish presentations, and another one for social and cultural programme on the Finnish countryside including a Sauna.

Sun 13	Mon 14	Tue 15	Time	Wed 16	Thu 17	Fri 18
	Breakfast	Breakfast	7	Breakfast	Breakfast	Breakfast
	Opening Ceremony Keynote	Action - Reaction session / Papers Papers Papers	9	Keynote	Action - Reaction session / Papers Papers Papers	Papers Papers Papers Papers
			10	Coffee		
	Coffee	Coffee	10.30	Papers Papers Papers Papers	Coffee	Coffee
	Papers Papers Papers Papers	Theme Panel / Theme Panel	11		Theme Panel / Theme Panel	Keynote Closing cerem.
Registration	Lunch	Lunch	12.30	Lunch	Lunch	Lunch
	Theme Panel / Theme Panel	Finnish presentations	14	Cruise & Excursions in Häme region	Papers Papers Papers Papers	
	Coffee	Coffee	16		Coffee	
	Papers Papers Papers Papers	Finnish parallel presentations	16.30		Papers Papers Papers Papers	
Opening cocktail	Demos / Posters		17.30 18.30		Demos / Posters	
Buffet	Dinner buffet	Finnish Evening Sauna Midnight Swim	19 20	Dinner buffet	Dinner	

Conference activities

Keynotes

There are three keynote addresses (45 minutes each) which together present an overview of the conference topics and of its themes.

Paper sessions

Paper sessions are parallel plenary sessions. All invited papers will be available for participants at the beginning of the conference in the conference proceedings. In the paper sessions two to three speakers will highlight their prepared papers in 20—25 minutes each and ample time will be provided for discussion. Conference participants are strongly invited to discuss the papers and their presentation. These discussions form one of the essential and most rewarding features of the conference.

Theme Panels

Theme Panels provide an opportunity for participants to be involved in group discussions, sharing points of view and experiences, and engaging in debate. Formally constituted panels will be embedded in the programme. Panel sessions will be based on conference theme(s). There will be three presentations within each panel session. These will be short, and designed to stimulate discussion. Ideas may be submitted for position papers within a specifically targeted panel or for a proposal for a complete panel.

Action - Reaction Sessions

Action - Reaction sessions are based on paper presentations. There are, however, fewer papers in such sessions in order to accommodate prepared reactions from the audience. These sessions will be composed by putting together papers containing controversial viewpoints.

Demonstrations and Poster Sessions

Poster and demonstration sessions are an open forum for participants to make small presentations to facilitate exchange of views between participants.

Participants who want to demonstrate software and other learning materials to other participants may do so in the demonstration room.

Exhibition

Potential commercial as well as non-commercial exhibitors will be encouraged to contact the organising committee members for more information.

Social Programme

Aulanko is an excellent venue to get acquainted with Finnish culture. Hämeenlinna is a regional centre of Häme and is built around a medieval castle which is well restored and well worth visiting.

Participants will be taken on two separate excursions. On Tuesday evening there will be a visit to Vanajanlinna, a Manor house which has a very special place in the Finnish history. Participants have also an opportunity to go bathing in a Sauna and swim in the lake in the famous northern, summer-night light.

On Wednesday we will get on board and cruise on the lakes of Häme. First stop will be in the horticultural college

providing among other things a rare opportunity to taste Finnish wine. The second stop will be at a forest studio of a Finnish artist of early 20th century. On the return journey participants will have an opportunity to stop by a glass factory where famous Finnish design glass is produced, exhibited, and sold.

Conference venue

The ComNEd'99 will take place at the Hotel Aulanko, 5 kilometres from Hämeenlinna town centre, 100 kilometres from Helsinki. Participants are expected to lodge in the hotel. All professional events of the conference will take place within the hotel premises in lecture halls equipped with full computing and audio-visual facilities. Participants will have free access to computing equipment and software (wordprocessors, e-mail, access to the web, etc.) and will be offered opportunities to run and demonstrate their own materials.

Aulanko offers experiences never to be forgotten. Saunas and an indoor swimming pool are at guests' disposal every morning. In your leisure time you can try Aulanko's fine golf course, horseback riding, or experience the beauty of Finnish watering courses on a cruise or take a walk in the forest near by.

Technical facilities

PCs and Macs with standard presentation software and LCD panels as well as VHS videos are available for all presentations. Videos with NTSC can be provided on request. For personal use a computer lab with Internet connections will be built.

Organising Institutions

The International Federation for Information Processing

The International Federation for Information Processing (IFIP) is a multinational federation of professional and technical organisations concerned with information processing, that was founded in 1960 under the auspices of UNESCO. IFIP is dedicated to improve world-wide understanding about the role information processing can play in all walks of life, and to increase communication among practitioners of all nations. Members of IFIP are national organisations in the field of information processing.

Technical and scientific work which is at the heart of IFIP's activities is managed by a series of Technical Committees (TC). Each Technical Committee is composed of representatives of IFIP member organisations. Technical Committee 3 is on Education. Under each Technical Committee there operate Working Groups which consist of specialists who are individually appointed by their peers independently of nationality.

The IFIP Working Group 3.1 on ICT in Secondary Education

Working Group 3.1 (WG 3.1) is one such group which has its focus on Information and Communications Technologies (ICT) in Secondary Education. In the last decade WG 3.1 has organised several working and open conferences, of which the last ones are: *"Information technology: supporting change through teacher education"* (together with WG 3.5), Kiryat Anavim, Israel (1996), *Capacity Building for IT in Education in Developing Countries, CapBIT'97* (together with WG 3.4 and 3.5), Harare, Zimbabwe (1997) and *"Secondary school mathematics in the world of communication technologies: learning, teaching and the curriculum"* Villard de Laus-Grenoble, France (1997). WG 3.1 also regularly produces "Guidelines for Good Practice", and has elaborated for UNESCO a "Curriculum for schools: Informatics for Secondary Education".

The IFIP Working Group 3.5 on ICT in Elementary Education

Working Group 3.5 (WG3.5) focuses on Information and Communication Technologies (ICT) in Elementary Education. The scope of this group covers both pre-school and elementary school. By itself and in co-operation

with other Working Groups it has organised several conferences in the last decade. Recent conference themes have included teacher education (pre-service and in-service), ICT in developing countries, the changing role of teachers and learners, and national policies regarding ICT in the curriculum.

The IFIP Working Group 3.6 on Distance Education

The aim of the working group is to investigate the pedagogical use of Communication and Information Technologies (ICT) 1) in the classroom, 2) in distance education 3) in open, flexible and distance learning. The focus of the work will be on administrative as well as pedagogical issues plus technological opportunities applied on: 1) The Virtual University ; 2) The Global School; 3) Global Resources on the Internet with respect to communication, interaction and information.

The working group's activities are mainly working conferences, workshops and open teleteaching conferences.

University of Helsinki

University of Helsinki is the largest and oldest university in Finland. Founded in Turku in 1640, the University moved to Helsinki in 1828. The University of Helsinki has nine faculties: Theology, Law, Medicine, Arts, Science, Education, Social Sciences, Agriculture and Forestry, Veterinary Medicine.

There are more than 32 000 students (61.4% women, 6.8% Swedish-speaking), 1 258 foreign students, 2 500 teachers and research workers, 3 584 other staff.

IT Centre for Schools

The Helsinki University Centre of Continuing Education communicates academic know-how and research results to the public at large. It runs a network of independently administered specialized institutes across Finland one of them being Vantaa Centre for Continuing Education, the base for IT Centre for Schools.

IT Centre for Schools provides
- ICT courses across the curriculum
- study programmes in educational software and multimedia design
- extensive training in telematics and multimedia in education

IT Centre's research and development activities cover also
- curriculum development projects with schools
- developing innovative and interactive learning environments

Our information services
- active participation in national and international community of developers of ICT in education
- consultancy in implementing educational technology policy on local, national and international level

Staff mounts up to 30 at the moment.

Finnish Information Processing Association

Today the Finnish Information Processing Association (founded in 1953) consists of 24 member societies, which jointly have as members some 24 000 individuals as well as nearly 700 companies and other types of organizations. The majority of these member societies operate regionally to promote professional growth of IT professionals and to provide them with an informal platform for discussing current issues of the field. They offer various types of activities, such as seminars, training, get-togethers with guest speakers, leisure activities, etc. Issues of particular interest for the Association frequently include the creation and revisions of Finnish law, such as questions about data security and copyright protection. One of the key tasks is to act as a sponsor and organizer of research projects of national significance in the IT field.

The association is a member to the following international societies: CEPIS, IFIP, ICC, NDU.

Summer University of Häme

The Summer University of Häme was founded to cover regional educational needs and is now administrated by the Regional Council of Häme. The co-operation with universities is close, particularly in the case of open university teaching. In 1997 our summer university arranged 154 courses for 3776 students. Courses are open to everyone irrespective of age and education. Our program is carried out according to the requirements of the universities.

The Summer University of Häme arranges also supplementary courses especially in the subjects of education, health care and social sciences to develop professional skills or to provide stimuli.

Finnish National Board of Education

The National Board of Education is the national agency of expertise under the Ministry of Education covering areas of general education, vocational education and training and adult education. The agency is specialising in producing and marketing development, evaluation and information services to the owners and managers of schools and educational institutions, to teachers, to policy makers and to company sector:

- implementing the national educational policy
- co-operating in partnerships at home and abroad
- steered by the client's needs and striving for quality
- aiming at efficiency, effectiveness and economy.

Finnish Ministry of Education

Education and research are crucial factors for the development of Finland as an information society. In the information society, knowledge is the key resource. Advances in technology which facilitate production and improve communication have an essential effect on the structure, content and methods of education and resources. In 1995 the Ministry prepared a national strategy for education, training and research in the information society.

The support of this event is a clear signal from the Ministry of its sustained commitment to fully implement the national information society strategy.

Registration, accommodation, costs

The conference venue, Hotel Aulanko, provides also excellent full-board accommodation which we strongly recommend to all participants.

Participants' registration

Participants' registration fee is FIM 2150 (US$ 363). It covers

- scientific programme and other professional activities
- excursion to regional educational and cultural institutions on the lake district
- social and cultural programme: welcome reception, Finnish evening
- conference kit including pre-prints of all accepted papers and list of participants
- conference proceedings
- entrance to the exhibition and demos
- free access to the full Internet services plus personal computing during the conference

Accommodation according to options listed below

- full-board accommodation from Sunday June 13 noon to Friday June 18 afternoon including all meals (breakfast, lunch, dinner) and coffees (before and after noon) plus sauna every morning
- other alternatives are also available, see the next page

Not included
- transportation from and to the airport
- alcoholic beverages or soft drinks, except the opening cocktail

All participants are encouraged to register by sending the enclosed registration form with full payment before February 28, 1999. The registration fees must be paid in Finnish currency, which is the Mark (FIM). At the April 1998 rate US dollars (US$) 1 = FIM 5,58. The fees are as follows:

	Until February 28		*After March 1, 1999*	
	FIM	US$	FIM	US$
registration fee for a participant	**2150**	**(385)**	**2650**	**(475)**
registration fee for an accomp. person	**350**	**(63)**	**450**	**(81)**
with full board in a double room	2620	(470)	2620	(470)
with full board in a single room	3420	(613)	3420	(613)
with accompanying person in a double room	5240	(940)	5240	(940)
with meals but without hotel accommodation	1015	(182)	1015	(182)
with lunch and coffees only	625	(112)	625	(112)
post-conference book	**280**	**(50)**	**280**	**(50)**

Please note that no registration will be accepted after May 10, 1999!

For detailed information on other types of registration, please refer to the Registration Form. Please take into account the following:

- Full payment and registration form must be sent together to the Conference secretariat.
- Confirmations and acknowledgements of receipt will be sent to registered participants when these requirements have been fulfilled.
- Registration forms received without payment will not be processed.
- No adjustments for lodging or meals will be made for late arrivals or early departures.
- Participants without hotel accommodation should make their own lodging arrangements.

Colleagues from developing countries seeking financial support are advised to contact the organising committee for information on subsidies.

How to pay

Payments will be received by Summer University of Häme. All payments should be made by means of a credit card or a BANK TRANSFER (also send the corresponding statement established by your bank to the Conference secretariat together with your registration form) to:
Account holder: Summer University of Häme
Bank: Merita Bank Ltd
Account number: MRITFIHH 204718-30131

Refund and cancellation policy

Notification of cancellation should be sent in writing to the Conference secretariat no later than May 10, 1999. A 25% cancellation charge will be deduced from the total amount paid. Refunds will be made after the Conference. No refund can be made for cancellation received after May 10, 1999.

People and contact information

Programme Committee

Chairs: Bernard CORNU (co-chair), France
Anton KNIERZINGER (co-chair), Austria

Members: David BENZIE, UK
Peter BOLLERSLEV, Denmark
Toni DOWNES (co-editor), Australia
Raymond MOREL, Switzerland
Sindre ROSVIK, Norway
Brian SAMWAYS, UK
Matti SINKO (OC chair), Finland
Deryn WATSON (co-editor), UK

Editors: Toni DOWNES (co-editor), Australia
Deryn WATSON (co-editor), UK

Organising Committee

Chair: Matti SINKO, IT Centre for Schools / University of Helsinki

Members: Eva FORSSÉN, IT Centre for Schools / University of Helsinki
Ella KIESI, National Board of Education
Jari KOIVISTO, National Board of Education
Varpu KUULIALA, Summer University of Häme
Eero PEKKARINEN, Kemi —Tornio Polytechnic
Martti PIIPARI, University of Tampere
Riitta RINTA-FILPPULA, National Board of Education
Martti SIEKKINEN, University of Joensuu
Jari TIAINEN, Summer University of Häme
Marja-Terttu TYYNELÄ, Finnish Information Processing Association
Leena VAINIO, IT Centre for Schools / University of Helsinki
Jarmo VITELI, University of Tampere, Finnish Information Processing Association

Conference secretariat

The organisation of the IFIP Conference in Hämeenlinna is under the joint operational responsibility of the IT Centre for Schools and Summer University of Häme. The secretaries of the conference are Ms Eva FORSSÉN, Ms Varpu KUULIALA, and Ms Tuula SUIHKONEN.

The Conference secretariat has the following address:

Before the Conference
IT Centre for Schools
Lummetie 2 A
01300 Vantaa
Finland

During the Conference
Hotel Aulanko
13210 Hämeenlinna
Finland

Tel: +358-9-191 29081 **+358-3-658 801**
Fax: +358-9-191 29090 **+358-3-682 1922**
E-mail: comned-99@helsinki.fi
URL: http://www.hyvan.helsinki.fi/kttk/comned99/

Miscellaneous Information

Money

The currency is the Finnish Mark (FIM). The exchange rate was in April 1998 5.58 FIM = 1 US$. Major credit cards like Visa or MasterCard are accepted. Several banks have offices in Hämeenlinna. However, since banks are closed on Saturdays and Sundays (except in the Helsinki—Vantaa airport), you should obtain some cash in FIM in advance or at your arrival at the airport.

Weather

The weather is quite unpredictable in mid-June. It can be warm (up to 25 C) and sunny, or rainy. Evenings are often quite cool in June (sometimes even down to 5 C). And please be prepared for early summer mosquitoes, which may cause allergic reaction if you have a sensitive skin, but otherwise are not dangerous. Sports and swimming gear are recommended.

How to reach Aulanko

1. To Helsinki—Vantaa airport by plane. (You may arrive also by boat across the Baltic sea or by train or car from Scandinavian countries or Russia).

2. By bus to Hämeenlinna (90 kms) directly from the airport or by shuttle bus to Helsinki (20 kms) and from there by train or bus to Hämeenlinna (105 kms).

3. By local bus or taxi from the town centre to Aulanko (4 kms).

Electricity supply

The voltage in Finland is 230V 50 Hz. Continental European plug.

Further information

An interesting information package is available on the web which provides plenty of information about the conference, including registration, organisers, tips for travellers, regional and Finnish culture, etc. Please visit our web-site at the URL: http://www.hyvan.helsinki.fi/kttk/comned99/. The pages will be updated regularly.

ComNEd'99

Announcement and Call for Papers

Submitting contributions

We invite you to actively participate in the conference through a number of means.

- Presenting a Paper
- Making a Demonstration
- Preparing a Poster
- Proposing a Panel Contribution

Instructions for authors

Papers

A paper (in standard English) of no more than 3,000 words should address one or more of the conference themes. We encourage the submission of papers that are research and reflection orientated, and also those with descriptions of concrete actions or innovations. They should be produced according to the following requirements:

1. On the top left of the text state that this is a paper submission, and identify the theme to which the paper is related.
2. After the title, give name and full affiliation of the author(s), including an e-mail address.
3. Write an abstract summarising the paper content in 100 words.
4. Present up to five keywords that reflect the paper content.
5. Provide, where relevant, a Reference list at the end.
6. Incorporate artwork, figures and tables and indicate with title, in the text.

Panels

Formally constituted panels will be embedded in the programme. Panel sessions will be based on conference theme(s). There will be three presentations within each panel session. These will be short, and designed to stimulate discussion. Ideas may be submitted for position papers within a specifically targeted panel or for a proposal for a complete panel. Proposals for a complete panel must include proposals for the three position papers. They should be produced according to the following requirements:

1. On the top left of the text state this is a panel or paper within a panel proposal and identify the theme/s to which the panel /position paper is related.
2. After the title, give name and full affiliation of the author(s), including an e-mail address.
3. Present up to three keywords that reflect the content of this panel or position paper.
4. Present in no more than 500 words the idea/position of the panel or position paper and indicate how it would contribute to a discussion session within a specific theme.

Posters

Posters can be paper-based and displayed on wall surfaces or in electronic format such as a web site. They should be short and concise in an informative way. They can present information on projects and courses; they could also be an invitation for partnerships in exiting or future projects. They will need to attract attention and indicate where more detailed information can be found. Presenters will have an opportunity to support their posters orally at the given time within the conference. Submissions for a poster should:

1. On the top left of the text state that this is a poster submission and identify the theme/s to which the poster is related.
2. After the title, give name and full affiliation of the author(s), including an e-mail address.
3. Present up to three keywords that reflect the demonstration content.
4. Describe the poster, in no more than 200 words, including the theme, headlines and planned outcomes and the mode of presentation.

Demonstrations

Demonstrations should focus on practical experiences of using ICT for teaching and learning.
They are less formal than papers or posters, and are expected to have a specific focus. Submissions should be produced

according to the following requirements:

1. On the top left of the text state that this is a demonstration submission, and identify the theme/s to which the demonstration is related.
2. After the title, give name and full affiliation of the author(s), including an e-mail address.
3. Present up to three keywords that reflect the demonstration content.
4. In no more than 500 words, highlight the nature of the demonstration and how it relates to the conference themes.

How and where to submit

Style and layout

Do not submit papers or other documents using an embedded style format or layout design.

Simply

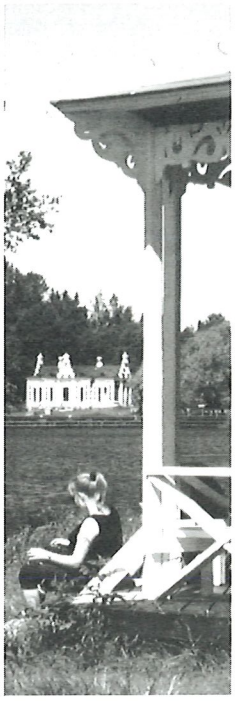
Use Times Roman font 12 points.
Use in papers up to three subheadings
- the first in CAPITALS
- the second in **lower case bold**, and
- the third in *italics.*

For all other submissions, use only one subheading, in **lower case bold**;
Avoid using tabs or other indent devices in the text.
Incorporate tables or diagrams within the text.
For references use the Harvard style – that is, references credited by author and date in the text, and in alphabetical order at the end.

Submission medium

1. Submit as a file in Word or Word Perfect or Rich Text Format (RTF).
2. Send the submissions in electronic form, either:
   a) On disc, entitled by 'author name'/ComNEd
   - labelled with the host machine (PC or Mac);
   - the word processing application used (Word, Word Perfect etc.) and which version;
   - the file name, which must start with the surname of the author;
   - not in condensed form, thus not a zip file.

   b) As an attachment
   - with an accompanying e-mail message entitled 'author name'/ComNEd;
   - as a file from the word processing application
   - giving the name and version of the application
   - using a file name that must start with the surname of the author.
3. Send also separately a single paper version, paginated.
4. Send to:
   Matti Sinko
   IT Centre
   Lummetie 2 A
   01300 VANTAA
   Finland
   E-mail: matti.sinko@helsinki.fi



Closing date for all submissions – 15th October 1998
Authors are encouraged to send in material before the deadline.

Selection process and publication

The selection process will embody two principles, the appropriateness of the submission to conference themes, and the calibre of the material.

All material, whether a paper, demonstration, poster, or theme discussion point, once selected will be referred to as a conference presentation in subsequent correspondence. All selected conference presentations will be included in the Conference Proceedings, published and available to all attendees at the start of the event.

A separate publication, a book, will be produced a few months after the conference. This will contain a selection of the papers presented at the conference, the keynote addresses, and reports from panel and other discussion sessions. If your paper is accepted for publication in this book, you will be asked to sign a document assigning copyright to the Publishers. You should ensure that all text is copyright-free or that permissions have been obtained and documentation is available.

ComNEd'99

Registration form

Finland, June 13—18, 1999

I plan to submit a paper: Yes No

PARTICIPANT

FAMILY NAME	FIRST NAME

INSTITUTION

ADDRESS

POSTCODE	TOWN	COUNTRY

TELEPHONE	FAX

E-MAIL

ACCOMPANYING PERSON

FAMILY NAME	FIRST NAME

REGISTRATION AND ACCOMMODATION FEES (Circle all appropriate options.)

	Until February 28		*After March 1, 1999*	
	FIM	US$	FIM	US$
registration fee for a participant	**2150**	**(385)**	**2650**	**(475)**
registration fee for an accomp. person	**350**	**(63)**	**450**	**(81)**
with full board in a double room	2620	(470)	2620	(470)
with full board in a single room	3420	(613)	3420	(613)
with accompanying person in a double room	5240	(940)	5240	(940)
with meals but without hotel accommodation	1015	(182)	1015	(182)
with lunch and coffees only	625	(112)	625	(112)
post-conference book	**280**	**(50)**	**280**	**(50)**

EXTRA NIGHTS HOTEL ACCOMMODATION REQUEST

Before the conference	from June 12	1 night single	FIM 480 (US$ 86)
Before the conference	from June 12	1 night double / p	FIM 320 (US$ 57)
After the conference	from June 18 to June	nights single x	FIM 480 (US$ 86)
After the conference	from June 18 to June	nights double / p x	FIM 320 (US$ 57)
Total cost of extra nights		**Total payment**	

PAYMENTS SHOULD BE MADE

1) By a Credit card Eurocard/Mastercard ☐ Visa ☐ American Express ☐

Card n:o_____ Date of expiry (m/y) _____ Signature_____

2) By a bank transfer (also send the corresponding statement established by your bank to the Conference secretariat together with your registration form) to Summer University of Häme. Bank: Merita Bank Ltd. Account number: MRITFIHH 204718-30131

SPECIAL REQUESTS:

COMNED'99

The teacher, as a mediator in a networked society

ComNEd'99
IFIP WGs'3.1 and 3.5 Open Conference
Hämeenlinna, Finland, June 13-18 1999

Authors :
Hélène GODINET
Helene.Godinet@grenoble.iufm.fr
Andrée KLEIN
Andree.Klein@grenoble.iufm.fr

IUFM Grenoble. 30 avenue M. Berthelot . 38000 GRENOBLE . FRANCE
Tel : 33 4 76 86 30 55
Fax : 33 4 76 74 73 67

Abstract
As an increasing number of schools are being connected to the Internet and equipped with telematics tools, there is a growing fear among teachers who don't know how to make effective use of the machines.
The authors (teacher trainers) were interested to pinpoint through their day to day practice and their involvement in european projects the competences that emerged from their activities with their students. The paper defines the essential role of the teacher regarding ICT (the changing role of the teacher in an ICT-based school environment and in a networked society) and calls for vigilance in the use and integration of ICT in education and teacher training.

Keywords
Teachers role, multimediated learning, networking, language learning, mediation.

The teacher, as a mediator in a networked society

Introduction

Today, there is a widespread belief that, with the advent of ICT, networks and hypermedia, the role of the teachers will change, that the teacher will no longer be **the only one to convey knowledge.**

These fast and typically superficial statements provoke as many **fears as enthusiastic reactions** among the teaching profession. Fears for some, to see, computerized teaching gradually taking over or **distance learning superseding face to face teaching**. Enthusiasm for others who develop the notion of a radically new and improved educational paradigm and infuse into the profession an innovative spirit.

What can be said is that, when new technologies are **incorporated,** they are no doubt important when they serve to overcome material and technical obstacles to teaching and learning. But there is no clear evidence, on a larger scale, whether ICT, networks and hypermedia in themselves are sufficient as tools aimed at adding value to the educational process, or at improving the quality of education and its output.

Nevertheless, out of our humble, day to day practice as teacher trainers, we have piled up some experience and have now reasons to believe, that this particular combination of pedagogies and technologies is likely, not to revolutionise educational practice, but to bring about some noticeable changes, especially in the role of the teachers.

We will firstly present, these changes in terms of competences needed to grapple ICT and the roles that must be held by teachers, then in the second place we will try to replace the use of ICT and reflect on it in a more general context, to gain a better understanding of where we stand and assess the credibility a few tracks in initial teacher training.

Defining a progressive evolution in teaching competences through some experiments

It appears clearly that, starting from our specific framework - language learning/teaching - we have been experimenting for some years with our students (student-teachers), some practical ways of integrating ICT, the set of key functionalities mainly, interactivity, multimodality, evolutivity, that hypermedia have added to the idea of teaching and learning can make ICT integration possible and can transform the teaching/learning environement.

Our work, as practitioners, consisted in testing different softwares, CDROMS, organizing on-line tutoring via e.mail and visioconferencing, participating to on-line virtual workshops, sharing good practice via visioconferences, using and/or designing on-line resources with our european partners, in european Socrates projects like APPLAUD or T3 (telematics for teacher training, a telematics applications programme for education and training, supported by the European Commission DG XIII). From these various observations and experiments we ticked off three types of competences to be developped in teacher training . They relate to :

1. Technical ability

Competent teachers can use a wide range of appropriate telematic resources, (either browsing or/and creating networked resources, e.mail, visioconferencing), to enhance personal and professional efficiency, and to update skills in the light of new developments.

2. Pedagogical ability

Competent teachers can plan and implement lessons with telematics taking into account the needs, experiences and abilities of individual students.

They can organise resources effectively, to ensure differentiation and progression, monitor and evaluate the progress of students and the use of telematics and the outcomes.

They can manage the classroom appropriately according to their teaching objectives when using telematics.

3. Communicative ability

Competent teachers can optimize the interaction between medium and message in order to adjust to the mode of communication .To use hypermedia and network, teachers need to understand that information and resources are open, virtual, distant, multimodal.

Networking opens schools to other contexts, other communities , other cultures .

Telematics tools introduce opportunities to pick up on non-verbal communication cues such as gesture, body language, facial expression and human behaviour in general.

Learning and teaching a language (our trade) is studying another culture and accepting the otherness in it. Learning and teaching a language has a lot to do with culture and factual knowledge (history, current events,...). It is not only learning texts but more increasingly understanding sound, picture and video, (hearing, interpreting pictures..)

At last, teachers have to plan, deliver hypertextual rhetoric, evaluate and assess their students'learning in dealing with non linear networked information.

The competences identified here, though non exhaustive, imply a reorganisation of the roles of the teacher.

Defining the changing role(s) of the teacher in a networked society

Reflecting on social and human artefacts and activities, we are struck by the fact that, they all are the results of a mediation.

For example, there is no science, no religion without mediation. Education falls into the same category and the important message to deliver is that there is no education without mediation. Therefore, the role of the teacher is above all that of a **mediator** i.e the one who verbalizes experience and knowledge to ensure successful acquisition.

This fundamental role has some very practical implications when it comes to integrate ICT and can be seen as a core feature to be broken up into several others like :

The teacher as a designer
The teacher as a expert
The teacher as a tutor
The teacher as a evaluator.

The teacher as a <u>designer</u> : a mediator between the students and the environment

He/she sets up authentic learning environments which allow participants to gather information from multimedia data bases, and to communicate with others via multimedia technology .

In term of **resources**, (the web or ICT based packages as universal library);

In terms of **collaborative work**
- with teachers and students or students and experts outside the classroom and real-life communication established with peers, in other countries, by e.mail or visioconferencing;
- project-work shaped around sharing, negociating;
In terms of **reorganisation of pedagogical time** and places : reshuffling teaching hours, rethinking classroom management. He/she can turn his/her classroom into an open, international space adding a virtual dimension to it.

The teacher as an expert : a mediator between the students and knowledge
The teacher's traditional task is to organize and structure information. It is even more so with ICT because he/she has to turn the vast collection of **information** (sometimes uncontrolled) into **knowledge**.
He/she decides whether a site meets his educational objectives.
He/she tailors the materials to suit them.
He/she helps the students to discriminate between information and the processing of relevant information .
He/she stimulates the students to use on-line resources in a shrewd, cautious manner to form a critical community of users .

The teacher as at tutor : a mediator between the students and their learning styles
The electronic on-line tutoring enables the teacher to have frequent feedback and therefore an acute idea of his students'learning and cognitive styles. N. Edward [EDWARD 97] relying, on anglo-saxon sources, on cognitive psychology, showed how hypermedia enable the interaction between contents, methods and learning.
This will enhance the traditional moral support given by teachers.
He/she can tutor not only the students'products but the process of learning.
The computer provides the students with a learning programme, the tutor organises the contents according a progressive approach ajusted to the individual needs of the student.
The student needs to receive, in real time, a feedback which is more than a computer-calculated result . The role of the teacher is to structure his/her pedagogical on-line material and create hyperlinks in the provided resources so that users get an appropriate feedback, when browsing and re-structuring information (sometimes, when needed, preselected by the teachers).

The teacher as an evaluator : a mediator between the students and their productions
He/she provides his/her students with clear insights into their progression, storing files of their work, defining their weak and stronger points to help them come to terms with their learning and cognitive styles.

After carrying on these experiments that have led us identify and define competences and roles, we must acknowledge the fact that teaching with ICT is an uphill task.
The teacher has to reflect on his practice and on the learning processes and procedures even more than in a traditional learning environment. He/she has to become - it is quite new with teachers - a **professional.**

The teacher in a networked society : a watchful mediator

The teacher has not only to reflect on his/her practice but much more on the interaction between school and society. He/she has to reflect on the pedagogical relevance of ICT. A reflective attitude is possible only if at some point the teacher can take up a **critical attitude**. To keep distance from the «wired-up» society, to ponder on the forceful hype around ICT (pros and cons alike) is the best way to escape unscathed.
A cautious approach supported by, as suggested D.Wolton [WOLTON 97], a strong sense of **discrimination** and **relativity** must be taken up to escape the «cycle of deception» promoted by manufacters and some researchers in order to give credible answers to the call for evidence coming from our colleagues.
Where do we (teachers, educators) stand in the «information society» ? How can we find our way through the «webby» maze and find suitable strategies to integrate ICT and train student teachers . Here again, the teacher is a **mediator** between what is going on in the civil society and school. Information and communication technologies are, so it seems, vested with an intrinsic ability to solve social and cultural problems. We actually cannot demonstrate that a rich authentic ICT-based learning environment will solve them.

If the mediation is effective in the classroom and at school (see above) it also has to be effective in society. Actually, about ICT, the teacher has to be able to distinguish :

1° between different levels :

That of innovation (discovery), application (industrial implications) and service (usage). These three fields overlap and there is nothing worse than confusing them. Economy makers, manufacturers are inflicting the effects of the raging battle waged to occupy the unchartered lands of the ICT market on us. The consequences are that they tend to impose their rythm, their pace of change, their vision of the future, shaping it with the improbable concept of information society. We must clearly state that we are playing in a different field.

2° between services :

The use of ICT in services vary a lot. If they are quite handy with entertainement, tourism..., it is an altogether different story with education, health and work. Oversimplification and generalisation are to be avoided in these matters. Transferability from one to the others is not that easy ! The more sophisticated the activities (like learning and teaching), the more difficult it is to **standardize** them.
The main question is what is access to information for ? There is no relation between the increasing volume of information available and its effective use. The greater the flow of information, the greater the need to acquire conceptual tools to decipher complex systems become. Cultural inequalities to access and use of information will grow when going from services like tourism, entertainement to those related to teleworking, telecommuting, telematics in education.
In other words, it is necessary to discriminate between the widespread availability of data and the competencies needed to process, use, integrate them.

We have to demystify common and superficial assertions related to two notions often associated with ICT : time and autonomy.
The technological literature abonds in terms of «real time», «speed », «faster», «instant access» as if all of a sudden time like space was abolished and turned into instantanous data. Compressed time like space seems to be the new panacea that will save the world of

education.
As teacher trainers we have to defend/reintroduce the term of «**learning time**», and state clearly that the unavoidable ingredient in the learning process is **Time**.
Most of the time, in some papers or speech, educational multimedia software and autonomy (self-training) are synonymous. Since this new form of packaging change the how, when and where of the teaching/learning approach it tends to be presented as an incredible opportunity to move away from the traditional constraining learning environment, as something deceptively simple, almost magical : the ultimate in terms of individualized learning. This inordinate trend to see the individual as the nucleus of everything tends to deprive us of what is the most needed in our western societies i.e the social link or here the social context of learning.(The social fabric as the locus of social interactions at school).

Conclusion

We wanted to stress the necessity to train our students not only to become capable and critical ICT users but also and above all to become aware of the underlying concepts and the social, economical implications attached to it. We are in a transitory period, in which schools rely on tested tools and methodology . To talk about the ICT revolution does not solve most of the difficulties our societies encounter in just «technisizing» them. Our role as teacher trainers is to make future teacher's competences evolve regarding a progressive integration of ICT in a networked society (if such a thing exists or will ever exist.)
If ICT instrumentalizes the mediation, it neither changes its nature nor questions its necessity.

Bibliography

[AUTHIER 98] AUTHIER M. & SERRES M. (sous la direction de.) (1998) **Apprendre à distance.** Le Monde de l'Education hors série . Paris. Septembre 98

[DAVIS 98] DAVIS N. & TEARTLE P. (1998) **A Core Curriculum for Telematics in Teacher training .** Proceedings Teleteaching 98 . Vienna.

[DIEUZEIDE 94] DIEUZEIDE H. (1994) **Les Nouvelles Technologies, Outils d'Enseignement** . Nathan . Paris

[DURPAIRE 97] DURPAIRE J.L. (1997) **Internet à l'école en France** . Guide d'usages pédagogiques . Collection l'Ingénierie Educative. CRDP Poitiers . CNDP.

[EDWARD 97] EDWARD N.(1997): **Development of a cost effective computer assisted learning package to facilitate conceptual understanding.** CAL 97. International Conference Proceedings. Exeter. UK

[LINARD 98] LINARD M. (1998) **La nécessaire médiation humaine**. In A l'heure d'Internet. Les Cahiers Pédagogiques n° 362. Paris. mars 98

[TARDIF 98] TARDIF J.(1998) **Intégrer les NTI. Quel cadre pédagogique ?** Paris. ESF

[WOLTON 97] WOLTON D. (1997) **Penser la communication**. Paris. Flammarion

Authors

Andrée Klein, teacher trainer at the Institut Universitaire de Formation des Maîtres, teaches english as a foreign language, foreign language methodology and pedagogy. She is an expert on integrating ICT, especially multimedia and web resources, in foreign language learning and teaching for secondary student-teachers. She is involved in different european ICT projects, co-responsable of the T3 project.

Hélène Godinet, teacher trainer at the Institut Universitaire de Formation des Maîtres, teaches sciences of language, integrating CAL and ICT in writing and reading. She is an expert on networking and hypertext producing and has published different papers on this subject in educational journals. She is involved in different european ICT projects, co-responsable of the T3 project.

COMNED '99

WRV

A Preferred Future Pedagogic Mission for Using Virtual Reality (VR) in Schools: An Imen-Delphi (ID) Procedure with a World-wide Group of VR Scholars and Developers

David Passig and Aviva Sharbat. Bar-Ilan University, Israel.

passig@mail.biu.ac.il

sharbata@mail.inter.net.il

http://faculty.biu.ac.il/~passig

Procedure

In this study, 50 participants (see table 1) from worldwide agencies, organization and academic institutes were provided with an opportunity to take part in a future oriented discussion about the VR in education. This group of experts formed an ad-hoc virtual panel of people from the U.S, Canada, UK, Germany, Switzerland, Austria, Greece, Australia, New Zealand, Singapore and Venezuela. Most of the participants are holding key positions at universities, research institutes and the industry of educational VR. The scholars among them have conducted studies and published scientific papers and books. The participants were aware of the names of their colleagues in this panel, but the whole procedure was carried out anonymously.

We have collected a list of 116 experts who are working on different aspects of VR and education through various channels—from VR electronic newsgroups to lists of participants in VR conferences. We have addressed them with the rational of the study and asked for their consent to participate in the panel. Fifty three sent their consent to participate, 22 refused to participate, and the rest didn't answer. Finally, 50 worldwide experts took part in this project—15 women and 35 men.

Table 1: Participants

Expertise / Country	Distinguished scholars	Industry developers	M.A & Ph.D. students working on educational VR
United States	17	6	4
Canada	1	-	-
United Kingdom	3	1	5
Germany	-	-	1
Switzerland	1	-	-
Austria	1	-	-
Greece	1	1	2
Australia	2	-	-
New Zealand	1	-	1
Singapore	-	-	1
Venezuela	1	-	-
Total = 50	28	8	14

The *participants* were asked to collect studies (teasers) regarding trends in two aspects of future educational VR: the *way* and the *reason* to integrate VR in schools—the *why* and *how* to make use

of VR technologies in future curriculum (K-12). We have asked them to provide us with teasers, and we engaged also in collecting others. By *intellectual-teaser* we meant any kind of references, short summaries or excerpts (10 sentences) from original articles, studies, visionary notes or any other published information, concerning the future of VR in education, which correspond to the two aspects in debate—the *why* and *how*. It was necessary to provide the participants with a number of thought-provoking *intellectual teasers* to assist them in generating thoughtful questions to be addressed later to the whole panel.

Participant Sessions

We then produced a file summarizing in it the variety of teasers submitted by the participants as well as the researchers (20 teasers on total) (see sample on fig.1). We have left space at the bottom of each teaser and asked the participants to draft questions for later presentation to the whole group of participants. The file was attached to an e-mail sent to the 50 participants in this study.
The participants were kindly asked:

1. To read the attached excerpts.
2. To imagine the other participants sitting in front of them reading the same material.
3. To imagine they had the opportunity to ask them questions on how they view the future of educational VR in light of the studies they all had just read.
4. To think about questions which would extract images from the participants' minds and hearts concerning the future.
5. To challenge the participants' motivations and self-expectations.
6. To draft actual questions relevant to the participants' scope of communal issues.

First Round

In a very real sense the causes of the present lie in the future, which means that the image of the future people have in their minds can have a dramatic effect on what they do right now. Repeated attempts were made to convince the participants that one of the reasons for this study was to consolidate the possibilities concerning the use of VR in K-12 education, and to assess their present view points accordingly. They were told that the idea of having them think of the future was not in order to predict the future, but to help them generate positive well managed future goals. This idea was enlarged in various opportunities (while repeatedly clarifying assignments and motivating them to submit their materials). We have stressed that it is important to learn and create complex images of the future, since on their basis it is possible to develop skills through which one may adapt to change and create change.
We then developed a second file in which we organized the questions (28 out of 413—clarifying, and combining the most relevant ones) around the two categories of future VR in education (for a sample of the first round questionnaire, see fig. 1).

The participants were asked to do the following:

1. To read the attached excerpts and projections.
2. To answer the questions briefly.
3. To enlarge upon their perspectives, notions and objectives in dealing with the issues.
4. To submit questions to the rest of the panel if they choose to do so.

Figure 1: Sample of a First-Round Questionnaire

The Why • SELF-DIRECTED LEARNING • Theory

The use of VR in education may encourage self directed learning in the student. Bruner (1968), Vygotskii (1978),and Piaget have emphasized the importance of self directed activity in their theories.

Brown, D. J, Mikropoulos, T. A, & Kerr, S.J. (1996) A Virtual Laser Physics Laboratory. VR in the Schools December 1996, Vol. 2: 3.

Questions to participants

8. How would you define VR in education?

9. What should be the leading education theory in the development of VR educational material (if any)?

Second Round

The underlying purpose of the second round was to facilitate a thorough interaction that would generate specific ideas listed as statements. Therefore, the second-round questionnaires were designed around the proposed mission-statements. The statements that comprised the second-round were narrated by the researchers who organized the answers that were received from the first round in two reports coinciding with the original two categories in debate—the *why* and *how* VR in K-12. These reports were e-mailed to the participants. The second-round questionnaire was comprised of 72 suggested future mission statements (for a sample, see table 2).

The purpose of this round was to help organize thoughts and focus the discussion around more specific solutions for 1) preferred futures, 2) expected futures, and 3) potential (or prospective) futures. The Imen-Delphi procedure is aimed at producing some type of agreement on an alternative future mission: complete disagreement, plurality, bipolarity, majority, or complete consensus. The second-round was designed to achieve that purpose (for a sample, see table 2).

Table 2: Sample of a Second-Round Questionnaire

Round 2

Statements	Question I Do you prefer this statement to be fulfilled in the future? A. Definitely yes B. Possibly yes C. Probably no D. Absolutely no	Question II What is the likelihood that this statement will be applied in the future? 1st. Certain 2nd. Uncertain 3rd. Probable D. Unprobable	Question III Is this statement feasible to be realized in the future? A. Certain B. Uncertain C. Probable D. Unprobable
8. Ed. VR will provide learning experience different from other media			
9. We will be able to evaluate Ed. VR learning experience using some of the same parameters as the ones used to measure the 'old' experiences.			
17. Ed. VR will have great potential in the application of spatial thinking.			

Third Round

The list of mission-statements that comprised the third-round was adapted from the mission-statements of the second-round that received the majority vote as being *very important goals* for the future of VR in education. The purpose of the third-round was to have the panelists take responsibility, formulate a final proposed list of future mission-statements, and generate new ideas and recommendations. The third round questionnaire comprised a final list of 46 agreed upon future mission statements. The following (see Table. 3) is the complete list that the majority of the participants accepted to represent the preferred points of a future mission of VR in education.

Table 3: Third-Round Questionnaire§ Round 3

	Agreed upon Future Mission-Statements	Participants' votes on the importance of this statement to the future? A. Definitely yes B. Possibly yes C. Probably not D. Absolutely not (from 2nd-r)	Please mark whether or not you are satisfied with the way Ed. nowadays uses the potential of VR expressed in each of these statements (y/n)	Please, give any suggestions as to how we can promote the implementation of these statements in future VR and Ed.
Characteristics				
1.	VR in ed. have to be defined as a computer-generated space which provides sensory immersion using 3-D interactive multi-user worlds and application of virtual environments for learning.	A. 45% B. 41% C. 5% D. 5%		
2.	VR in ed. will have to provide the students with an opportunity to experience sensory interactive learning environments which will enable them to move from passive learning to active learning.	A. 82% B. 18% C. 0% D. 0%		
3.	Novelty, interactivity, simulation, exciting scenarios,_ feeling of exploration and discovery, and making learning active, will have to make Educational VR (Ed. VR) interesting and motivating enough for students to want to use it.	A. 73% B. 27% C. 0% D. 0%		
4.	Immersive quality, free navigation, creative input and connection to the technology of computer games will have to make Ed. VR interesting and motivating enough for students to want to use it.	A. 50% B. 41% C. 9% D. 0%		
Attractive Environments				
5.	Ed. VR will change the physical structure of the classroom - the classroom will need no walls or boundaries.	A. 36% B. 32% C. 18% D. 14%		
6.	Ed. VR will have to be an augmentation to traditional learning paradigms.	A. 64% B. 36% C. 0% D. 0%		
7.	Ed. VR will have to teach people	A. 41%		

	with psychological phobias how to cope with them.	B. 45% C. 14% D. 0%		
8.	Ed. VR will have to be able to support cooperative learning among students at different locations by allowing them to share experiences of exploring a common environment.	A. 82% B. 18% C. 0% D. 0%		
9.	Ed. VR will have to provide equal support for students needing more structure, having learning disabilities, etc. by making all assumptions explicit and creating flexible design of environments.	A. 55% B. 32% C. 9% D. 5%		

Cognition

10.	Ed. VR will have to provide "new intelligence".	A. 18% B. 27% C. 32% D. 9%		
11.	Learning in Ed. VR will have to be cognitively different than that of a traditional educational environment by allowing the students to use simulated environment actively and interactively, and to combine abstract learning with understanding coming from experience to help in developing imagination.	A. 59% B. 9% C. 18% D. 5%		
12.	Learning in Ed. VR will have to be cognitively different than that of a traditional educational environment by providing multi-sensory interface, Ed. VR will lead to enhancement of spatial ability, and memory as well as the reduction of certain phobias.	A. 45% B. 41% C. 9% D. 0%		
13.	Learning in Ed. VR will have to be cognitively different than that of a traditional educational environment by allowing directed feedback, creativity and alternate learning styles.	A. 55% B. 27% C. 0% D. 14%		

Areas

14.	Humanities subjects Like: languages, Social Studies, History Will have to be served by Ed. VR.	A. 9% B. 50% C. 36% D. 5%		
15.	Science subjects like: Mathematics, Chemistry, and Physics will have to be served by Ed. VR.	A. 41% B. 41% C. 14% D. 5%		
16.	The applications where Ed. VR has great potential will have to be all	A. 73% B. 27%		

	the areas in which visualization, simulation or "learning by doing" activities are essential.	C. 0% D. 0%		

Evaluation

17.	The assessment of Ed. VR will have to be done with a range of methodologies and qualitative studies of various systems.	A. 77% B. 23% C. 0% D. 0%		
18.	We will have to be able to evaluate Ed. VR learning experience using some of the same parameters as the ones used to measure the 'old' experiences.	A. 32% B. 41% C. 18% D. 9%		

Theories

19.	Constructivism will have to be the leading theory of education in the development of Ed. VR material.	A. 27% B. 45% C. 18% D. 5%		
20.	We will have to be able to ensure that the development of Ed. VR learning tools leads to more effective results for our students by using the same philosophy of experimentalism and criticism as a Neo-Deweyan paradigm.	A. 23% B. 45% C. 14% D. 0%		
21.	Vygotsky's social theories of education will have to be the leading theory in the development of Ed. VR material.	A. 5% B. 55% C. 23% D. 5%		
22.	Any theory that allows open learning environment will have to be suitable in the development of Ed. VR material.	A. 36% B. 41% C. 18% D. 5%		

Standards

23.	Quality standards will have to be Imposed on Ed. VR by the Marketplace, government and international regulatory body for VR.	A. 32% B. 32% C. 18% D. 14%		
24.	The same standards as the ones for ordinary education will have to be imposed on Ed. VR.	A. 37% B. 27% C. 18% D. 18%		

Methods

25.	We will have to be able to ensure that Ed. VR is applied in the most appropriate areas and prevent its misuse by encouraging the publication and discussion of criticisms and alerts about the dangers inherent to the new media, as well as addressing moral and ethical issues.	A. 55% B. 32% C. 9% D. 5%		

26.	The methods that will have to be used in the design of Ed. VR applications will be trial and error, customer feedback and monitoring of effects on health.	A. 9% B. 55% C. 27% D. 9%		
27.	Ed. VR will need to have great potential in the application of spatial thinking.	A. 82% B. 18% C. 0% D. 0%		
28.	Ed. VR will have great potential in the application involving topics where student is unable to build mental models and representations.	A. 41% B. 41% C. 14% D. 5%		

Developments

29.	We will have to be able to ensure that the development of Ed. VR learning tools leads to more effective results for our students by doing initial pilot studies and control studies to examine learning effectiveness.	A. 68% B. 23% C. 9% D. 0%		
30.	We will have to be able to ensure that the development of Ed. VR learning tools leads to more effective results for our students by developing appropriate methods for observation and evaluation of students' behavior and response to the new media.	A. 59% B. 36% C. 5% D. 0%		
31.	We will have to be able to ensure that the development of Ed. VR learning tools leads to more effective results for our students by communicating and making results available through the Internet.	A. 50% B. 45% C. 5% D. 0%		
32.	Ed. VR technology will have to be developed to its full potential by encouraging or sponsoring collaboration between the workplace & education.	A. 36% B. 55% C. 9% D. 0%		
33.	Ed. VR technology will have to be developed to its full potential by rewriting the curriculum in terms of interactive problem solving.	A. 27% B. 45% C. 23% D. 5%		

Resources

34.	Ed. VR associations will have to advise governments about any necessary regulations to ensure that VR is only applied in the most appropriate areas and prevent its misuse.	A. 41% B. 23% C. 14% D. 23%		
35.	We will have to educate teachers and others in the appropriate use of VR to prevent its misuse.	A. 55% B. 27% C. 9% D. 9%		

36.	The infrastructure needed to support the use of Ed. VR should be just regular computers and trained human resources for facilitating and assisting students.	A. 23% B. 45% C. 23% D. 9%		
37.	The human infrastructure needed to support the use of Ed. VR should be teams from all walks of life for example: from universities, K-12 schools, business, government, church, parents, and other community agencies.	A. 50% B. 23% C. 18% D. 9%		
38.	We will have to train teachers to utilize this technology by using the methods of "multiplying effect" (teachers training other teachers).	A. 68% B. 23% C. 5% D. 5%		

Research

39.	The necessary research that will have to assist instructional designers in developing effective Ed. VR learning environments is research into the effects of various aspects of VR on learning different subjects.	A. 59% B. 36% C. 0% D. 5%		
40.	The necessary research that will have to assist instructional designers in developing effective Ed. VR learning environments is research into the health effects of VR.	A. 18% B. 59% C. 18% D. 5%		
41.	The necessary research that will have to assist instructional designers in developing effective Ed. VR learning environments is research into the application of VR for spatial problems.	A. 36% B. 50% C. 14% D. 0%		
42.	The necessary research that will have to assist instructional designers in developing effective Ed. VR learning environments is research on motivation and exploration.	A. 36% B. 59% C. 5% D. 0%		
43.	The necessary research that will have to assist instructional designers in developing effective Ed. VR learning environments is research into Ed. VR standards.	A. 18% B. 64% C. 5% D. 14%		
44.	The necessary research that will have to assist instructional designers in developing effective Ed. VR learning environments is research on how we learn, using different methods and techniques, at every age, and every type of situation.	A. 55% B. 45% C. 0% D. 0%		
45.	Multimedia is a field from which Ed. VR research will have to learn a lot.	A. 50% B. 32%		

		C. 14% D. 5%		
46.	The research that will have to be necessary to assist instructional designers in developing effective Ed. VR learning environments is research involving the practitioners or the classroom teachers.	A. 64% B. 18% C. 9% D. 9%		

§§

Result.

powerful breakthrough.

positive light

Learning research

the teachers

Cognitively different

Learning infrastructure

the greatest potential

Solve existent problems

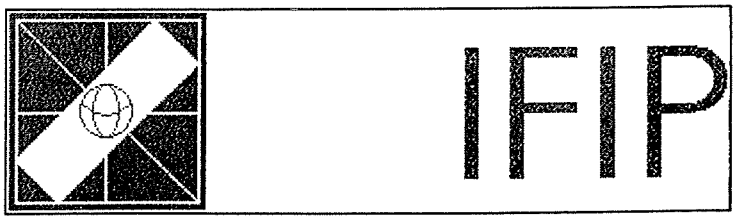
→ Conclusion

|| from providers of suppl. to primary provider.

IFIP WG 3.1 and 3.5 Open Conference
Hämeenlinna, Finland, June 13—18, 1999

Communications and Networking in Education: Learning in a Networked Society

ComNEd'99



IFIP WGs' 3.1 and 3.5 Open Conference
Aulanko, Hämeenlinna, Finland, June 13—18, 1999

ComNEd'99

Communications and Networking in Education: Learning in a Networked Society

The International Federation for Information Processing (IFIP) and its Working Groups 3.1 (ICT on secondary education) and 3.5 (ICT on elementary education) in association with 3.6 (distance learning) under the Technical Committee on Education (TC3) invite researchers, developers, and practitioners to share their experiences in an Open Conference *Communications and Networking in Education: Learning in a Networked Society, ComNEd'99* in Aulanko, Finland.

The conference will take place under the unforgettable northern midnight sun in one of the most picturesque Finnish lake sceneries only 100 kilometres from Helsinki in the panoramic settings of Hotel Aulanko, near Hämeenlinna, Finland June 13 — 18th, 1999 just before the last midsummer festival of this millennium.

The conference will take place under the unforgettable northern midnight sun in one of the most picturesque Finnish lake settings only 100 kilometres from Helsinki in the panoramic settings of Hotel Aulanko, near Hämeenlinna, Finland from June 13th to 18th, 1999 just before the last midsummer festival of this millennium.

The ComNEd '99 conference continues and updates the exploration of a broad range of issues associated with the introduction of ICT into school education systems (pre-school through 18 years) that began when computers first appeared in schools. Recent IFIP Working Group 3.1 & 3.5 open conferences on related themes have been held in Austria (1993), Israel (1996) and Zimbabwe (1997). On this occasion we are pleased that Working Group 3.6 (Distance Education) is also a joint host.

The conference programme has been designed to support and encourage the in-depth treatment of conference topics, informed discussion, the informal exchange of ideas and opinions, and to encourage the establishment of new personal relationships. As on previous occasions, the Conference will provide a stimulating opportunity to work together for a week in the company of other experts in the field from all over the world. Proceedings from the Conference will be shared with the international community through the post-conference publication.

Academic papers, panel discussions, project presentations and keynote lectures will address key issues from a number of perspectives. The arrival of the Internet in schools is, for example, creating opportunities for new ways of working in both traditional classrooms and for distance learners. Several conference sessions will focus on issues in these areas. Additionally, these developments have profound implications for the future role of the teacher and so conference sessions will also address this.

Teacher education is widely seen as the key to bringing about change in teaching and learning but it is also acknowledged to be complex because current teaching practices have deep cultural roots that are closely associated with traditional classroom activities and working patterns. The challenges to both pre-service and in-service teacher education will be widely discussed in sessions.

The availability of ICT in the classroom has provided us with a new dimension in which to explore our understanding of learning processes. Conference papers and discussion will also assess what can be learnt from experiences in this area.

This brochure includes full details of the expected conference programme and it shows how key themes will be addressed. We, the ComNEd'99 organisers, hope you find it exciting and would like to welcome you to meet with us and other colleagues in Aulanko. Several hundred participants are expected from all around the world so please join us!

Programme structure of the conference

The conference will start on Sunday afternoon, June 13, and will close on Friday June 18 by lunch-time. The programme consists of keynote speakers, parallel paper sessions, theme panels, and as a speciality a debate forum. Poster sessions will be available as well. One afternoon and evening is dedicated to Finnish presentations, and another one for social and cultural programme on the Finnish countryside notwithstanding Sauna.

Sun 13	Mon 14	Tue 15	Time	Wed 16	Thu 17	Fri 18
	Breakfast	Breakfast	7	Breakfast	Breakfast	Breakfast
	Opening Ceremony Keynote	Action - Reaction session / Papers Papers Papers	9	Keynote	Action - Reaction session / Papers Papers Papers	Papers Papers Papers Papers Papers Papers
	Coffee	Coffee	10	Coffee	Coffee	Coffee
	Papers Papers Papers Papers	Theme Panel / Theme Panel	10.30 / 11	Papers Papers Papers Papers Papers Papers	Theme Panel / Theme Panel	Keynote Closing Ceremony
Registration	Lunch	Lunch	12.30	Lunch	Lunch	Lunch
	Theme Panel / Theme Panel	Finnish presentations	14	Cruise & Excursions in Häme region	Papers Papers Papers Papers	
	Coffee	Coffee	16		Coffee	
	Papers Papers	Finnish parallel presentations	16.30		Papers Papers Papers Papers	
Opening cocktail	Papers Papers Demos Posters		— 18.30		Demos Posters	
Buffet	Dinner buffet	Finnish Evening Sauna Midnight Swim	19	Dinner buffet	Dinner	

Conference activities

Keynotes

The keynote talks, three in all (45 minutes each) present an overview of the conference topics and of its themes. (HUOM.Leena, JÄTÄ TÄH'N KOHTAAN TILAA KAHDELLE TAI KOLMELLE KUVALLE JA K.O. IHMISTEN ESITTELYLLE!)

Paper sessions

Paper sessions are parallel plenary sessions. All papers will be available for participants on arrival at the conference in the pre-conference proceedings. In the paper sessions two to three speakers will present their papers in 20—25 minutes each and ample time will then be provided for discussion. Conference participants are strongly encouraged to discuss the papers with presenters and other colleagues. These discussions will form one of the essential and most rewarding features of the conference.

Theme Panels

Theme Panels provide an opportunity for participants to be involved in group discussions, sharing point of view and experiences, and engaging in debate. Members of Theme Panels will each make a 5 minute presentation before the debate is opened up to all those present.

Project Theme Panels

Teams involved in major projects (many of them involving international links) will present their work in panel sessions that are each dedicated to a project. Following a substantial presentation there will be time to discuss the details of the project and its wider implications.

Action - Reaction Sessions

In addition to the presentation of papers, Action – Reaction sessions will include short prepared reactions to those papers. There will also be time for further discussion of the issues between all those present.

Demonstrations and Poster Sessions

Poster and demonstration sessions provide an open forum for participants to make small presentations to facilitate the exchange of views between participants.
Participants who want to demonstrate software and other learning materials to other participants may do so in the demonstration room.

Exhibition

Potential commercial as well as non-commercial exhibitors will be encouraged to contact the organising committee members for more information.

Social Programme

Aulanko is an excellent venue to get acquainted with Finnish culture. Hämeenlinna is a regional centre of Häme built around a medieval castle which is well restored and can be visited.

Participants will be taken to two separate excursions. On Tuesday evening there will be a visit to Vanajanlinna, a Manor house which has a very special place in the Finnish history. Participants have also an opportunity to go bathing in Sauna and swim in the lake in the famous northern summer night light.

On Wednesday we will get on board and cruise on the lakes of Häme. First stop will be in the horticultural college providing among other things a rare opportunity to taste Finnish wine. The second stop will be at a forest atelier of a Finnish artist of early 20th century. On the way back participants will have an opportunity to stop by a glass factory where famous Finnish design glass is produced, exhibited, and sold.

Conference venue

The ComNEd'99 will take place at the Hotel Aulanko, 5 kilometres from Hämeenlinna town centre, 100 kilometres from Helsinki. Participants are expected to lodge in the hotel. All professional events of the conference will take place within the hotel premises in lecture halls equipped with full computing and audio-visual facilities. Participants will have free access to computing equipment and software (wordprocessors, e-mail, access to the web, etc.) and will be offered opportunities to run and demonstrate their own materials.

Aulanko offers experiences never to be forgotten. Saunas and an inner swimming pool are at guests disposal every morning. On your leisure time you can try Aulanko's fine golf course, horseback riding, or experience the beauty of Finnish watering courses on a cruise or take a walk in the near by forest.

Technical facilities

PCs and Macs with standard presentation software and LCD panels as well as VHS videos are available for all presentations. Videos with NTSC can be provided on request. For personal use a computer lab with Internet connections will be built.

Organising Institutions

The International Federation for Information Processing

The International Federation for Information Processing (IFIP) is a multinational federation of professional and technical organisations concerned with information processing, that was founded in 1960 under the auspices of UNESCO. IFIP is dedicated to improve world-wide understanding about the role information processing can play in all walks of life, and to increase communication among practitioners of all nations. Members of IFIP are national organisations in the field of information processing.

Technical and scientific work which is at the heart of IFIP's activities is managed by a series of Technical Committees (TC). Each Technical Committee is composed of representatives of IFIP member organisations. Technical Committee 3 is on Education. Under each Technical Committee there operate Working Groups which consist of specialists who are individually appointed by their peers independently of nationality.

The IFIP Working Group 3.1 on ICT in Secondary Education

Working Group 3.1 (WG 3.1) is one such group which has its focus on Information and Communications Technologies(ICT) in Secondary Education. In the last decade WG 3.1 has organised several working and open conferences, of which the last ones are: *"Information technology: supporting change through teacher education"* (together with WG 3.5), Kiryat Anavim, Israel (1996), *Capacity Building for IT in Education in Developing Countries, CapBIT'97* (together with WG 3.4 and 3.5), Harare, Zimbabwe (1997) and *"Secondary school mathematics in the world of communication technologies: learning, teaching and the curriculum"* Villard de Laus-Grenoble, France (1997). WG 3.1 also regularly produces "Guidelines for Good Practice", and has elaborated for UNESCO a "Curriculum for schools: Informatics for Secondary Education".

The IFIP Working Group 3.5 on ICT in Elementary Education

Working Group 3.5 (WG3.5) focuses on Information and Communication Technologies(ICT) in Elementary Education. The scope of this group covers both pre-school and elementary school. By itself and in co-operation with other Working Groups it has organised several conferences in the last decade. Recent conference themes have included teacher education (pre-service and in-service), ICT in developing countries, the changing role of teachers and learners, and national policies regarding ICT in the curriculum.

The IFIP Working Group 3.6 on Distance Education

The aim of the working group is to investigate the pedagogical use of Communication and Information Technologies (CIT) 1) in the classroom, 2) in distance education 3) in open, flexible and distance learning. The focus of the work will be on: administrative as well as pedagogical issues plus technological opportunities applied on: 1) The Virtual University ; 2) The Global School; 3) Global Resources on the Internet with respect to communication, interaction and information.

The working groups activities are mainly working conferences, workshops and open teleteaching conferences.

University of Helsinki is the largest and oldest university in Finland. Founded in Turku in 1640, the University moved to Helsinki in 1828. The University of Helsinki has nine faculties: Theology, Law, Medicine, Arts, Science, Education, Social Sciences, Agriculture and Forestry, Veterinary Medicine

There are more than 32 000 students (61.4% women, 6.8% Swedish-speaking), 1 258 foreign students, 2 500 teachers and research workers, 3 584 other staff.

IT Centre for Schools

The Helsinki University Centre of Continuing Education communicates academic know-how and research results to the public at large. It runs a network of independently administered specialized institutes across Finland one of them being Vantaa Centre for Continuing Education, the base for IT Centre for Schools.

IT Centre for Schools provides
- ICT courses across the curriculum
- study programmes in educational software and multimedia design
- extensive training in telematics and multimedia in education for

IT Centre's research and development activities cover also
- curriculum development projects with schools
- developing innovative and interactive learning enviroments

Our information services
- active participation in national and international community of developers of ICT in education
- consultancy in implementing educational technology policy on local, national and international level

Staff mounts up to 30 at the moment.

Finnish Information Processing Association

Today the Finnish Information Processing Association (founded in 1953) consists of 24 member societies, which jointly have as members some 24 000 individuals as well as nearly 700 companies and other types of organizations. The majority of these member societies operate regionally to promote professional growth of IT professionals and to provide them with an informal platform for discussing current issues of the field. They offer various types of activities, such as seminars, training, get-togethers with guest speakers, leisure activities, etc. Issues of particular interest for the Association frequently include the creation and revisions of Finnish law, such as questions about data security and copyright protection. One of the key tasks is to act as a sponsor and organizer of research projects of national significance in the IT field.

The association is a member to the following international societies: CEPIS, IFIP, ICC, NDU.

Summer University of Häme

Summer University of Häme was founded to cover regional educational needs and is now administrated by the Regional Council of Häme. The cooperation with universities is close, particularly in the case of open university teaching. In 1997 our summer university arranged 154 courses for 3776 students. Courses are open to everyone irrespective of age and education. Our program is carried out according to the requirements of the universities.

Summer University of Häme arranges also supplemetary courses especially in the subjects of education, health care and social sciences to develop professional skills or to provide stimuli.

Finnish National Board of Education

The National Board of Education is the national agency of expertise under the Ministry of Education covering areas of general education, vocational education and training and adult education. The agency is specialising in producing and marketing development, evaluation and information services to the owners and managers of schools and educational institutions, to teachers, to policy makers and working life:

- implementing the national educational policy
- co-operating in partnerships at home and abroad
- steered by the client's needs and striving for quality
- aiming at efficiency, effectiveness and economy.

Finnish Ministry of Education

Education and research are crucial factors for the development of Finland as an information society. In the information society, knowledge is the key resource. Advances in technology which facilitate production and improve communication have an essential effect on the structure, content and methods of education and resources. In 1995 the Ministry prepared a national strategy for education, training and research in the information society.

Supporting this event is a clear signal from the Ministry of its sustained commitment to fully implement the national information society strategy.

Registration, accommodation, costs

The conference venue, Hotel Aulanko, provides also excellent full-board accommodation which we recommend strongly for all participants.

Participants' registration

Participants' registration fee is FIM 2150 It covers

- scientific programme and other professional activities
- excursion to regional educational and cultural institutions on the lake district
- social and cultural programme: welcome reception, Finnish evening
- conference kit including pre-prints of all accepted papers and list of participants
- conference proceedings
- entrance to the exhibition and demos
- free access to the full Internet services plus personal computing during the conference

Accommodation

- full-board accommodation according to options listed below from Sunday June 13 noon to Friday June 18 afternoon including all meals (breakfast, lunch, dinner) and coffees (before and after noon) plus sauna every morning
- other alternatives are also available

Not included

- transportation from and to the airport
- alcoholic beverages or soft drinks

All participants are encouraged to register by sending the enclosed registration form with full payment before March 10th, 1999. The registration fees must be paid in Finnish currency, which is Mark (FIM). The fees are as follows:

Costs for participants and accompanying persons	*Until March 10 1999* FIM	*After March 10,* 1999 FIM
registration fee	2150	2650
registration fee for an accomp. person	350	450
full board in a double room	2620	2620
full board in a single room	3420	3420
accompanying person in a double room	5240	5240
meals without hotel accommodation	1015	1015
lunch and coffees only	625	625
post-conference book	310	280

Please note that no registration will be accepted after May 10, 1999!

For detailed information on other types of registration, please refer to the Registration Form. Please take into account the following:

- Full payment and registration form must be sent together to the Conference secretariat.
- Confirmations and acknowledgements of receipt will be sent to registered participants when these requirements have been fulfilled.
- Registration forms received without payment will not be processed.
- No adjustments for lodging or meals will be made for late arrivals or early departures.
- Participants without hotel accommodation should make their own lodging arrangements.

Colleagues from developing countries seeking financial support are advised to contact the organising committee for information on subsidies.

How to pay

Payments will be received by Summer University of Häme. All payments should be made by means of a BANK TRANSFER (also send the corresponding statement established by your bank to the Conference secretariat together with your registration form) to:

Account holder: Summer University of Häme
Bank: Merita Bank Ltd
Swift.address: MRITFIHH 204718-30131

Payments can also be made by credit card (only Visa and Eurocard/Mastercard).

Refund and cancellation policy

Notification of cancellation should be sent in writing to the Conference secretariat no later than May 10, 1999. A 25% cancellation charge will be deduced from the total amount paid. Refunds will be made after the Conference. No refund can be made for cancellation received after May 10, 1999.

People and contact information

Programme Committee

Chairs: Bernard CORNU (co-chair), France
Anton KNIERZINGER (co-chair), Austria

Members: David BENZIE, UK
Peter BOLLERSLEV, Denmark
Toni DOWNES (co-editor), Australia

Raymond MOREL, Switzerland
Sindre ROSVIK, Norway
Brian SAMWAYS, UK
Matti SINKO (OC chair), Finland
Deryn WATSON (co-editor), UK

Editors: Toni DOWNES (co-editor), Australia
Deryn WATSON (co-editor), UK

Organising Committee

Chair: Matti SINKO, IT Centre for Schools / University of Helsinki

Members:

Ella KIESI, National Board of Education
Jari KOIVISTO, National Board of Education
Varpu KUULIALA, Summer University of Häme
Eero PEKKARINEN, Kemi —Tornio Polytechnic
Riitta RINTA-FILPPULA, National Board of Education
Martti SIEKKINEN, University of Joensuu
Jari TIAINEN, Summer University of Häme
Marja-Terttu TYYNELÄ, Finnish Information Processing Association
Leena VAINIO, IT Centre for Schools / University of Helsinki
Jarmo VITELI, Finnish Information Processing Association, University of Tampere

Conference secretariat

The organisation of the IFIP Conference in Hämeenlinna is under the joint operational responsibility of the IT Centre for Schools and Summer University of Häme. The secreteries of the conference are Ms Maria SALONEN, Ms Varpu KUULIALA, and Ms Tuula SUIHKONEN.

The Conference secretariat has the following address:

Before the Conference	During the Conference
IT Centre for Schools	Hotel Aulanko
Lummetie 2 A	13210 Hämeenlinna
01300 Vantaa	Finland
Finland	
Tel: +358-9-191 29081	+358-3-658 801
Fax: +358-9-191 29090	+358-3-682 1922

E-mail: comned-99@helsinki.fi
URL: http:// www.hyvan.helsinki.fi/kttk/comned99/

Miscellaneous Information

Money

The currency is the Finnish Mark (FIM). The exchange rate was in January 1999 about 5,14 FIM= 1US$. Major credit cards like Visa or MasterCard are accepted in most places. Several banks have offices in Hämeenlinna. However, since banks are closed on Saturdays and Sundays (except in the Helsinki—Vantaa airport), you might want to obtain some cash in FIM in advance or at your arrival at the airport.

Weather

The weather is somewhat unpredictable in mid-June. It can be warm (up to 25 C) and sunny, or rainy. Evenings are sometimes quite cool in June (sometimes even down to 5 C, and if you have a sensitive skin, you may want to

be prepared for early summer mosquitoes (a protection will be included in the conference kit). Sports and swimming gears are recommended.

How to reach Aulanko

Step 1. To Helsinki—Vantaa airport by plane. (You may arrive also by boat across the Baltic sea or by train or car from Scandinavian countries or Russia).

Step 2. By bus to Hämeenlinna city (90 kms) directly from the airport or by shuttle bus to Helsinki city centre (20 kms from the airport) and from there by train or bus to Hämeenlinna (105 kms).
Buses to Hämeenlinna from the airport approximately every hour (9.20, 10.20, 12.15, 13.20, 14.15, 15.20, 16.35, 17.35...the last 23.45)
There is a shuttlebus to Helsinki city centre (and railway station) every 20 minutes from the airport.
Timetables for buses and trains from Helsinki to Hämeenlinna can be easiest obtained from the following www-addresses:
***trains**: http://www.vr.fi/heo/english/heo.htm (look for connections Helsinki-Tampere, Hämeenlinna is on the way)*
***buses:** (to Hämeenlinna or Tampere) http://www.expressbus.com/*

Step 3. By local bus (numbers 2 and 13 take you directly to the hotel Aulanko) or taxi from the town centre or railway station to Aulanko (4 kms).

Step 3. By local bus or taxi from the town centre to Aulanko (4 kms).

Electricity supply
The voltage in Finland is 230V 50 Hz. Continental European plug.

Further information

An interesting information package is available on the web giving plenty of information about the conference, including registration, organisers, tips for travellers, regional and Finnish culture, etc. Please visit our web-site at the URL: http:// www.hyvan.helsinki.fi/kttk/comned99/. The pages will be updated regularly.

ComNEd'99 Registration form

Finland, June 13—18, 1999

PARTICIPANT

FAMILY NAME: FIRST NAME:

INSTITUTION:

ADDRESS:

POST CODE: TOWN: COUNTRY:

TELEPHONE: FAX:

E-MAIL:

I plan to submit a paper: Yes No

ACCOMPANYING PERSON

FAMILY NAME: FIRST NAME:

REGISTRATION AND ACCOMMODATION FEES

Costs for	*Until March 10 1999*	*After March 10*
participants and accompanying persons	FIM	FIM
registration fee	2150	2650
registration fee for an accomp. person	350	450
full board in a double room	2620	2620
full board in a single room	3420	3420
accompanying person in a double room	5240	5240
meals but without hotel accommodation	1015	1015
lunch and coffees only	625	625
post-conference book	280	280

EXTRA NIGHTS HOTEL ACCOMMODATION REQUEST

Before the conference	from June 12	1 night	single	FIM 480
Before the conference	from June 12	1 night	double / p	FIM 320
After the conference	from June 18 to June	_____	nights single	xFIM 480
After the conference	from June 18 to June	_____	nights double / p.	xFIM 320

Total cost of extra nights _____ Total payment _____

PAYMENTS SHOULD BE MADE

1) By a Credit Card Visa ☐ Eurocard/Mastercard ☐

Card n:o _____ Date of expiry (m/y) _____ Signature _____

2) By a bank transfer (also send the corresponding statement established by your bank to the Conference secretariat together with your registration form) to Summer University of Häme. Bank: Merita Bank Ltd. Account number: MRITFIHH 204718-30131

SPECIAL REQUESTS

People in need of special services or attention (special diet, persons with small children, etc.) are invited to specify their requirements and send this information attached to this form to the conference secretariat.

Time	Monday		
7.00	Breakfast, restaurant - swimming pool & saunas open		
9.00	Opening ceremony		
9.30	Keynote Speech : **Alexei Semenov**: Technology & School Transformation		
10.00			
10.30			
11.00	*Constructivist approach* Paper session chaired by *Peter Bollerslev* **Pamela Gibbons, Kathryn Crawford, Susan Crichton, Robert Fitzgerald**, Cognition and Information Technologies in Context	*Psychological issues* Paper session chaired by *Bernard Cornu* **Yacoov Katz**, The Comparative Suitability of Three ICT Distance Learning Methodologies for College Level Instruction	
11.30	**Enrica Lemut, Simonetta Greco**, Technology and Systemic Thinking in Mathematics	**Juhani Tuovinen**, Research Framework and Implications for Online Multimedia Education Practice Based on Cognition Research	
12.00	**Qi Chen** , Use ICT to support Constructive Learning: Create an Interactive Multimedia-Based Learning Environment	**Steve Wheeler**, Caught in the Spotlight: User Reactions To Videoconferencing	
12.30	Lunch		
14.00	*Panel session* **Larry Miller, Jillian deJean, Rebecca Miller**, Ships Passing in the Night: Teacher's Existing Curricula and Curricula Embedded in a Computer-based Integrated Learning System **Giovanna Gazzaniga**, Is Distance Learning worth just for Real Distance Students? **Petra Fisser**, The vision of a telematics university: using ICT to support instructors and students **Andrea Ko, Andras Gabor**, Knwledge Society Challenges the Higher Education?	*EUN Schoolnet, Panel session* *The Virtual School, chaired by Ella Kiesi.* The presentations will give an overview of the state of affairs and contribute to the questions set out.	*Panel session* **Michel Arnaud**, Towards a more effective educational use of Internet. Caase study in parthenay, Strasbourg, St Laurent de Neste and Vienne (France) **Lasse Lipponen, Kai Hakkarainen, Hanni Muukkonen & Marjaana Rahikainen**, Promoting Educational Change with Computer-Supported Collaborative Learning: Finnish Perspectives **Paul Nicholson**, Linking science thinking and learning with software **Anne McDougall**, Issues in learning with new technologies
14.30			
15.00			
15.30			
	Coffee		
16.30	*Teacher education & Pedagogy (Informatics Curri-culum)* Paper session chaired by *Anton Knierzinger* **Peter Hubwieser, Manfred Broy**, Educating Surfers or Craftsmen: Introducing an ICT Curriculum for the 21st Century **Valentina Dagiene**, Programming-based Solution of Problems in Informatics Curricula	*The Classroom* Paper session chaired by *Raymond Morel* **Rosa Maria Bottino**, Computer-based Communication in the Classroom: Defining a Social Context **Eveline Riedling, Alexander Wahler, Klaus Niederarcher**, IGL - A Concept for an Interactive Growing Learning System	
17.00			
18.00			
19.00	Dinner		

Time	Tuesday		
7.00			
9.00	*Motion Reaction* *Teacher education, pedagogical reflection* Paper session **Gail Marshall**, Meaning Making: The Connection between Teacher, Student and Curriculum in ICT Environ-ments	*The Classroom*, Paper session **Steve Kennewell, Howard Tanner, John Parkinson**, A Model for the Study and Design of Teaching Situations with ICT	**Giovanna Gazzaniga**, Is Distance Learning worth just for Real Distance Students?
9.30	**David Passig, Sigal Eden**, Enhancing the Induction Skill of Hearing Impaired Children with Virtual Reality Technology	**Wang Jiqing, Lu Hong**, A Web-based Instruction Network in a School in China	
10.00	**Don Passey**, How will teachers be prepared for the connected learning community?	**Marta Turcsanyi-Szabo**, Imagine a Tool to Express and Explore	**Avril M. Loveless**, Creativity, Visual Literacy and Information & Communications Technology (ICT)
10.30			
11.00	**Baltic panel**	*T3, Panel session:* *Support and collaboration of autonomous learners in a European context* *Chair:* ***Ineke Lam*** *(Netherlands)* *Presenters*: **Niki Davis** (by videolink), **Jyrki Pulkkinen, Donatella Persico, Andree Klein** *Panel*: **Pulkkinen** (Finland), **Persico** (Italy), **Godinet** (France), **Lockhorst** (Netherlands)	*EE Net, Panel session*
11.30			
12.00			
12.30			
14.00	**Finnish parallel presentations**		
14.30			
15.00			
15.30			
16.00			
16.30			
17.00			
17.30			
18.00			
18.30			
19.00			
	FINNISH EVENING, SAUNA, MIDNINGHT SWIM		

Time	Wednesday		
7.00	Breakfast restaurant, Swimming pool & Saunas open		
9.00	Keynote Speech: **Margaret Riel:** Community Building (via videolink from USA)		
9.30			
10.00	Coffee		
10.30	*Computer-mediated Communications learning process chaired by Anton Knierzinger* **Michelle Arnaud**, Towards a more effective educational use of Internet. Case study in Parthenay, Srasbourg, St Laurent de Neste and Vienne (France)	*Changing the role of the teacher* **Joy Murray,** Computer Technology and Teacher Development: A Program to Support Pedagogical Change	
11.00	**Terence R. Cannings, Sue G Talley,** Online University Degree Programs: Changes in Learning and Teaching	**John Travers**, Information Technology and Teaching Style	
11.30	**Kate Denning, Mike Davis**, Computer-mediated Communication in Adult Education: An Emerging Pedagogy	**Tony Fisher**, Teacher Professionalism and the Use of Multimedia Portable Computers with Internet Capability	
12.00	**Carolyn Dowling**, Social Interactions and the Construction of Knowledge within Computer Mediated Learning Environments	**Svetlana Kudrjavtseva, Valentina Kolos,** Information and Communication Technologies in Distance Learning Process in Ukraine	
12.30	Lunch		
14.00			

14.30	
15.00	
15.30	
16.00	
16.30	
17.00	
17.30	
18.00	
18.30	
19.00	
	Dinner BUFFET

Thu	Thursday			
7.00				
9.00	**Josie Hopkins**, Using an Intranet for Curriculum Clues and Creative Connections		*Action-Reaction* *Virtual School*, Paper session **David Passig, Aviva Sharbat**, A Preferred Future Pedagogic Mission for Using Virtual Reality in Schools: An Imen-Delphi (ID) Exercise with a Group of VR Scholars and Developers	*Teacher professional developement*, Paper session **Barry H Blakeley**, Target Setting and Action Plans - Improving Communi-cation
9.30	**John Parkinson, Steve Kennewell & Howard Tanner**, Planning for a Cross Curricular Approach to the Development of IT Capability		**Giampaolo Chiappini, A. Chioccariello, C. Gibelli** Collaborative Teacher Training Through Telematics	
10.00	**Seija Mahlamäki,Leena Kallio, David Horsburgh, Geoff Davison**, Developing CD-ROM-Pedagogy in a team of Reflecting Practitioners		**Wolfgang Weber, Annemarie Hauf-Tulodziecki**, Learning with New Media - Media Literacy	**Helene Godinet, Andrée Klein**, The teacher as a Mediator in a Networked Society
10.30				
11.00	*Panel session chaired by David Benzie*: The Impact of the Internet on the role of the teacher. **Helene Godinet, Andrée Klein**, The teacher, as a mediator in a networked society **Torlaug L Hoel**, Using the Internet to Train and Support Mentor Teachers **Heikki Kynäslahti**, The Roles of the Teacher and the Emergence of Distance Education in Finnish Schools **Yvonne Buettner**, Hello again?	*Fetiche, Panel session, chaired by Bernard Cornu*	Nordic Panel chaired by Mike Aston: What lessons can be learned from the Nordic Experience? In the panel: Peter Bollerslev, Matti Sinko, Ulf Wasström, Sindre Rosvik	
11.30				
12.00				
12.30				
14.00	*Autonomous learners*, Paper session **Paola Forcheri, Maria Teresa Molfino** ICT as a Tool for Learning to Learn		*Changing the Role of the Teacher*, Paper session **Gianna Avellis, M.Capurso**, ERMES Evaluation Methodology to Support Teachers in Skills Development	
14.30	**Akiko Inaba, Jun'ichi Toyoda**, Discussion Animator: A knowledge-based system to encourage learners to collaborate		**Shane Mallam**, The Teachers are not Keeping up. And Things are Getting Worse	
15.00	**Katherine Sinitsa, Alla Manako** Extending glossary role in a virtual learning environment		**Larry Miller, Jillian DeJean, Rebecca Miller**, Ships Passing in the Night: Teacher's Existing Curricula and Curricula Embedded in a Computer-based Integrated Learning System	
15.30	**Jose Bravo, M.Ortega, M.F.Verdejo**, Planning in Distance Simulation Environments		**David Squires**, A Teacher's PET for the Millennium	

16.00			
16.30	**Tomi Nummi, Riikka Ristola, Aarno Rönkä & Janne Sariola** Approaching Pedagogical Networking through Teacher Education **Christos Bouras, Dimitris Fotakis, Agisilaos Konidaris, Afrodite Sevasti,** Virtual Environments in Educational Networks	**Kaye L Nebauer,** Measuring the Performance of Public Education System Internet Web Sites **Mike Kendall,** The Birmingham Grid for Learning: schools as partners in creating a learning city	
17.00			
17.30			
18.00			
18.30			
19.00			

Last name	First name	Institution	Country
Abbot	Chris	King´s College London, School of Education,Cornwall House, Waterloo Road, SE1 8WA London	U.K.
Aho	Matti	University of Lapland, PL 122, 96101 Rovaniemi	Finland
Alexiadou	Nafsika	Keele University, Keele, Staffordshire, ST5 5BG	U.K.
Appelberg	Elisabeth	Umeå University,Dep.of Child and Youth Education, Jagarv.10, 90187 Umeå	Sweden
Aston	Mike	Advisory Unit Computers in Education, 126 Great North Road, AL9 55N Hatfield	U.K.
Avellis	Giovanna	Tecnopolis Csata Novus Ortus, S.Prov.Per Casamassima km.3, 70010 Valenzano	Italy
Baranovic	Roman	Comenius University, Mlynska dolina, 84215 Bratislava	Slovakia
Barnes	Sally	University of Bristol,Graduate School of Education, 35 Berkeley Square,BS8 1JA Bristol	U.K.
Benzie	David	University College of St Mark and St John, Derriford Road, PL6 8 BH Plymouth	U.K.
Blakeley	Barry	King´s College London, School of Education, Cornwall House Waterloo Road, SE1 8WA London	U.K.
Bollerslev	Peter	SITC, Peder Hvitfeldts Strede 4,3, DK-1173 Copenhagen	Denmark
Bottino	Rosa Maria	IMA- C. NR, Via de Marini 6, 16149 Genova	Italy
Boyd	Larry	Annapolis Valley Regional School Board, 34 Jones Rd., B4N 3N1 New Minas	Canada
Brown	Doug	Birmingham City Council, Martineau Education Centre;Balden Rd.,Harborne, B32 Z EH Birmingham	U.K.
Buettner	Yvonne	Fachstelle Informatik der Lehrerinnen und Lehrerbortbildung, Postfach, CH - 4133 Pratteln	Switzerland
Cabeca	Manuel Dinis	PROALENTEJO, C.C.Vista Alegre - R. Jaime Cortesao,lt. 7, 7000 Evora	Portugal
Campelj	Borut	National Education Institute, Poljaska 28, 1000 Ljubljana	Slovenia

Last name	First name	Institution	Country
Cannings	Terence	Pepperdine University, 400 Corporate Pointe, 90230 Culver City, CA	USA
Carter	Jack	California State University, Mathematics Dept, California State University, 94542-3092 Hayword CA	USA
Cernochova	Miroslava	Charles University Prague, Faculty of Education, M.Rettigove 4, Praha 1, 116 39 Praha	Czech Republic
Chagas	Isabel	University of Lisbon, C.Nonio, Faculty of Sciences, Campo Grande, C 1, 1700 Lisboa	Portugal
Chen	Qi	Beijing Normal University, Dept. of Psychology, 100875 Beijing	China
Chiappini	Giampaolo	Istituto per la Matematica Applicata, Via de Marini 6, 16149 Genova	Italy
Christiaen	Hubert	K.U.Leuven, Kandidatuurcentrum Celestijnenlaan 200A, B -3001 Heverlee	Belgium
Collison	Jill	University College of ST.Martin, Bowerham Road, Lai 3 JD, Lancaster	U.K.
Cornu	Bernard	IUFM of Grenoble, 30 Av.Marcelin Bertheldt, 38100 Grenoble	France
Cox	Margaret	Kings College London, School of Education, Cornwall house, Waterloo Road, SE1 8WA London	U.K.
Dagiene	Valentina	Institute of Mathematics and Informatics, Akademijos str.4, 2600 Vilnius	Lithuania
Dalek	Krystyna	University of Warsaw, Warszawa,ul.Nutki 3 m 2, 02-782 Warsaw	Poland
Dam	Erik	KDAS, Ejbyvej 25-43, 2740 Skovlunde	Denmark
Denning	Tim	Keele University, Keele, Staffordshire, ST5 5BG	U.K.
Douglas	Janet	Roseville College, 27 Bancroft Ave., Roseville, 2069	Australia
Dowling	Carolyn	Australian Catholic University, 412 mt Alexander Rd, Ascot vale, 3032 Victoria	Australia
Downes	Toni	University of Western Sydney, P.O Box 555, 2560 Campelton nsw	Australia

Last name	First name	Institution	Country
Dunand-Filliol	Pierre	Centre Pédagogique CPTIC, 2-4. Theodore de Beze CP 3144, CH 1211 Geneve 3	Switzerland
Dunin-Borkowski	Jan	Centre for the Technology of Teaching, ul.Raszynska 8/10, 02-026 Warszawa	Poland
Eden	Sigal	Bar-Ilan University, 22\1, Ahava St., 45282 Hod-Hasharon	Israel
Farkas	Karoly	College of Commerce and Economics Szolnok, Ady E Street 9, 5000 Szolnok	Hungary
Ferrucci	Beverly	Keene State College, Mathematics Dept, 03435-2001 Keene NH	USA
Fissér	Petra	University of Twente, PO Box 217, 7500 AE Enschede	The Netherlands
Forcheri	Paola	Istituto per la Matematica Applicata - Consiglio Nazionale delle Ricerche, Via de Marini 6,16149 Genova	Italy
Forslund	Kerstin	Katrinelunds Gymnasieskola, Box 7034, 850 07 Sundsvall	Sweden
Forssén	Eva	ICT Learning Centre / Kivenlahti School, Lummetie 2A, 01300 Vantaa	Finland
Fulton	Freddy	Bibliotech, Unit 2, 50 Carnwath Road, London SW6 3EG	U.K.
Gazzaniga	Giovanna	Istituto Analisi Nemerica - C.N.R., Via Abbiategrasso 209, 27100 Pavia	Italy
Gibbons	Pamela	Australian Catholic University, 179 Albert Rd, Strathfield, 2135 NSW	Australia
Godinet	Hélene	IUFM, 30 av M Berthelot, 38100 Grenoble	France
Grabar	Marie	Victoria University, 34 Spencer St Essendon,	Australia
Graf	Klaus D	Freie Universität Berlin, Kurstr.5, D-14129 Berlin	Germany
Grandbastien	Monique	Loria,University Henri Poincaré, Bat.Loria - Campus Scientifique, 54506 Vandoeuvre Cedex	France
Gustavsson	Mikael	IT-Center, Box 8302, 10420 Stockholm	Sweden

Last name	First name	Institution	Country
Haapanen	Eija	Helsinki University of Technology, PL 1000, 02015 TKK	Finland
Hansen	Hans Christian	Aalborg College of Education (Seminarium) Mylius Erichsens Vej 131, 9210 Aalborg SO	Denmark
Hauck	Mirjam	The Open University / Centre for Modern Languages, Walton Hall, MK7 6AA Milton Keynes	U.K.
Hauf-Tulodziecki	Annemarie	Landesinstitut für Schule und Weiterbildung, Paradieser Weg 64, 59494 Soest	Germany
Hawes	Kym	Queanbeyan Distance Education Centre, Isabella Street, 2620 Queanbeyan, New South	Australia
Haworth	William	John Moores University, School of Modern Languages, 98 Mount Pleasant, L3 5UZ Liverpool	U.K.
Hedegaard	Kristian	Novo Nordisk Project, Peder Huitfeldts Straede 4, 1173 Copenhagen	Denmark
Helin	Erkko	University of Helsinki, PL 29, 00014 University of Helsinki	Finland
Helland	Gunnhild	Sandfallet kompetansesenter, Postbox 1113, 9504 Alta	Norway
Hillman	Eero	Tapiola School, Opintie 1, 02100 Espoo	Finland
Hjertqvist	Kersti	IT-Centre, Box 8302, 10420 Stockholm	Sweden
Hogenbirk	Pieter	C.P.S, P.O.box 1592, 3800 BN Amersfoort	The Netherlands
Hopkins	Josie	Monash University and Methodist Ladie`s College, 8 Dundee Street,Blackburn South. 3130 Melbourne,Victoria	Australia
Horila	Mikko	Summer University of Häme, Sibeliuksenkatu 25, 13100 Hämeenlinna	Finland
Hubwieser	Peter	Technical University of Munich, Department of Informatics, D-80290 Munich	Germany
Huovinen	Liisa	ICT Learning Centre / University of Helsinki, Lummetie 2 A, 00130 Vantaa	Finland
Hynninen	Pauli	Soukka School, Soukankuja 5, 02360 Espoo	Finland

Last name	First name	Institution	Country
Hyvärinen	Juha	Aurora School, Lippajärventie 44, 02940 Espoo	Finland
Hännikäinen	Kari	Tampere Vocational Education Institution, PL 217, 33101 Tampere	Finland
Ilomäki	Liisa	ICT Learning Centre / University of Helsinki, Lummetie 2 A, 00130 Vantaa	Finland
Inaba	Akiko	I.S.I.R., Osaka University, 8-1 Mihogaoka, Ibaraki, 567-0047 Osaka	Japan
Jakobsdottir	Solveig	Kennarahaskoli Islands (Iceland University of Education.) v/Stakkahlid, 105 Reykjavik	Iceland
James	Josie	St.Hilda´s School, P.O.BOX 290, 04215 Southport	Australia
Johns	Susan	Loreto Normanhurst, Pennant Hills Road Normanhurst, 2076 Sydney, New South Wales	Australia
Joutsimäki	Arto	City of Vantaa, ICT- Centre, Lummetie 4, 01300 Vantaa	Finland
Jørgensen	Dan Cort	Tietgen Business College, Elmelundsvej 10, DK-5200 Odense	Denmark
Kari	Soini	NIELS BROCK CBC, Kultorvet 2 DK-1175 Copenhagen K	Denmark
Karjalainen	Heikki	Helsinki City Department of Education, Hämeentie 11 A, PL 109, 00531 Helsinki	Finland
Karvinen	Riitta	Helsinki City Department of Education, Hämeentie 11 A, PL 109, 00531 Helsinki	Finland
Katz	Yaacov	Bal-Ilan University,School of Education 52900 Ramat-Gan	Israel
Kazlauskas	Alanah	Australian Catholic University, 40 Edward Street, North Sydney, 2059 NSW	Australia
Kendall	Michael	Birimingham City Council Education I.T.Service, Martineau Centre, Harborne, B32 2EH Birmingham	U.K.
Kennewell	Steve	University of Wales Swansea, Education Department,Hendrefoelan, SA2 7NB Swansea	U.K.
Keski-Hankola	Kaija	Hyvinkää Upper Secondary School Terimäenkatu 2-4 05900 Hyvinkää	Finland

Last name	First name	Institution	Country
Kiesi	Ella	National Board of Education, PL 380, 00531 Helsinki	Finland
Kirby	Jeffry	Abbotsleigh (An Anglican School for Girls) 1666 Pacific Highwa, 2076 Wahroonga	Australia
Kivinen	Risto	Pukinmäki Primary School, Pieksupoku 5, 00720 Helsinki	Finland
Klein	Andrée	IUFM, 30 av M Berthelot, 38100 Grenoble	France
Knierzinger	Anton	Pädagogische Akademie der Diözese Linz Salesianumweg 3, A-4020 Linz	Austria
Kõ	Andrea	Budapest University of Economic Sciences, Veres Pálné u.36,H - 1053 Budapest	Hungary
Koivisto	Jari	National Board of Education, PL 380, 00531 Helsinki	Finland
Koizumi	Hisao	Tokyo Denki University, 350-0394 Hatoyama Saitama	Japan
Koli	Hanne	ICT Learning Centre / University of Helsinki, Lummetie 2 A, 00130 Vantaa	Finland
Komonen	Christian	Cygnaeus Primary, Ratakatu 8, 00120 Helsinki	Finland
Kontula	Lassi	The Diaconia Institute Of Higher Education In Finland, Hämeentie 31 A, 00500 Helsinki	Finland
Korhonen	Aino	ICT Learning Centre / University of Helsinki, Lummetie 2 A, 00130 Vantaa	Finland
Korhonen	Maritta	Pohjois Savon Polytechnic, Saukontie 10, 70400 Kuopio	Finland
Koutra	Chryssoula	Lambrakis Research Foundation, I. Paparrigopoulou 3, 10561 Athens	Greece
Kristjánsdòttir	Anna	Iceland University of Education, Stakkahliò, IS-105 Reykjavik	Iceland
Kurki	Matti	EDP Institute, Rautatieläisenkatu 5, 00520 Helsinki	Finland
Kuuliala	Varpu	Summer University of Häme, Sibeliuksenkatu 25, 13100 Hämeenlinna	Finland

Last name	First name	Institution	Country
Kylämä	Jukka	ICT Learning Centre / University of Helsinki, Lummetie 2 A, 00130 Vantaa	Finland
Kylämä	Marja	ICT Learning Centre / University of Helsinki, Lummetie 2 A, 00130 Vantaa	Finland
Lagos	Sebastián	Universidad Metropolitana de Ciencias de la Education, Av.José P.Alessandri 774-Nunoa, 6852822 Santiago	Chile
Lam	Ineke	IVLOS Institute of Education Utrecht University, PO Box 80127,3508 TI Utrecht	The Netherlands
Larsen	Michael	Danish Council for Adult Education, Bredgade 36, 2., 1260 Copenhagen K	Denmark
Laursen	Mogens	Tietgen Business College, Elmelundsvej 10, DK-5200 Odense	Denmark
Lautiola	Hannele	ICT Learning Centre / University of Helsinki, Lummetie 2 A, 00130 Vantaa	Finland
Lehtinen	Erno	University of Turku, Lemminkäisenkatu 1, 20014 Turun Yliopisto	Finland
Leminen	Arja	General Education Department of Helsinki, Hämeentie 11, 00530 Helsinki	Finland
Lemut	Enrica	Istituto Matematica Applicata CNR, Via de Marini 6, 16149 Genova	Italy
Lihr	Jyrki	Kivimäki School, Lintukallionkuja 6, 01620 Vantaa	Finland
Lind	Liisa	National Board of Education, PL 380, 00531 Helsinki	Finland
Lindemann	Ene	Ministry of Education, Tönismägi 9/12, 15192 Tallinn	Estonia
Lipponen	Lasse	ICT Learning Centre / University of HelsinkiLummetie 2 A, 00130 Vantaa	Finland
Lockhorst	Ditte	IVLOS Institute of Education Utrecht University, PO Box 80127, 3508 TL Utrecht	The Netherlands
Loveless	Avril	University of Brighton, School of Education,Falmer,Brighton BN1 9PH Brighton	U.K.
Macek	Tomáš	Charles University of Prague	Czech Republic

Last name	First name	Institution	Country
Maeda	Takashi	Hokkaido Information University, 59-2 Nishi-Nopporo Ebetsu	Japan
Mahlamäki-Kultanen	Seija	Karkku Polytechnic, Tulluntie 30, 38100 Karkku	Finland
Maia	Mário	Escola Superior de Educação de Lisboa, Av.Carolina Michaelis Vasconcelos, P-1500 Lisbon	Portugal
Mallam	Rosemary	Star of the Sea.Terrigal, 31 Noorumba Rd., 2250 Springfield	Australia
Mallam	Shane	St.Edwards College, 13 Frederick St, 2250 East Gosford	Australia
Mannova	Boba	Czech Technical University in Prague, Karlovo nám 13, 121 35 Praha 2	Czech Republic
Marshall	Gail	Gail Marshall Associates, 2393 Broadmont Court, 63017 Chesterfield, Mo	USA
Marzin	Patricia	I.U.F.M, 30 Av.Marcelin Bertheldt, 38100 Grenoble	France
Mathiasen	Helle	The Royal Danish of Educational St., Emdrupuej 101, DK 2400 Copenhagen NV	Denmark
Matsuzawa	Masao	Science University of Tokyo, 1-17-19 Kami-soshigaya Setagya-ku, 157-0065 Tokyo	Japan
McDougall	Anne	Faculty of Education,the University of Melbourne, Parkville 3052,Victoria	Australia
Merisaari	Leena	Finnish Information Processing Association, Lastenkodinkuja 1 A, 00180 Helsinki	Finland
Midoro	Vittorio	ITD/CNR, Via de Marini 6, 16149 Genova	Italy
Miller	Larry	Queen´s University, Faculty of Education,Queen´s University, 127L3N6 Kingston,ON	Canada
Molfino	Maria Teresa	IMA-CNR, Via De Marini 6, 16149 Genova	Italy
Monteiro	Cecilia	Escola Superior de Educação de Lisboa, Av.Carolina Michaelis Vasconcelos P-1500 Lisbon	Portugal
Morel	Raymond	CPTIC, P.O. BOX 3144, CH 1211 Geneve 3	Switzerland

Last name	First name	Institution	Country
Moulds	Peter	Gregory Terrace, 4000 Brisbane Queensland	Australia
Murakami	Yoshikazu	Ehime University 5-22, 1-chome,Mochida-cho, 790-0855 Matsuyama	Japan
Murray	Joy	NSW Department of Education and Training, 21 Waratah Street, 2096 Harbord, NSW	Australia
Möllenberg	Christer	Katrinelunds Gymnasieskola, Box 7034, 85007 Sundsvall	Sweden
Nagy	Margaret	József Attila University, Mars tér 7, H-6724 Szeged	Hungary
Nebauer	Kaye	New South Wales Dept.of Education & Training, 6 Oldknow Crescent, Singleton,	Australia
Nemethova	Maria	Comenius University, Mlynska dolina, 84215 Bratislava	Slovakia
Neuner	Walter	Institute of School and New Technology, Salejianumwe 6 3, A-4020 Linz	Austria
Nicholson	Paul	Deakin University, 89 The Grange, 3106 Templestowe	Australia
Nieminen	Marianna	National Board of Education, PB 380, 00531 Helsinki	Finland
Nissinen	Pasi	Espoo Polytechnic, Lehtimäentie 1 C, 02770 Espoo	Finland
Ogawa	Junichiro	Hosei University, 3-21-23 Umezono,Kiyose-shi,Tokyo 204 Japan, 204-0024 Tokyo	Japan
Ollikainen	Raili	Helsinki University of Technology, PL 1000, 02015 TKK	Finland
Ollila	Mirja	Kilo School, Minna Canthin katu 18 as. 25, 00250 Helsinki	Finland
Ortega	Manuel	Universidad de Castilla -La Mancha, Paseo Universidad 4, 13071 Ciudad Real	Spain
Osipova	Elena	The Saint-Petersburg State University, V.O. 14 linia, 29, 199178 Saint-Petersburg	Russia
Pakarinen	Vesa	Lappeenrannan teknillinen korkeakoulu / KOKE, Lasekatu 6, PL 53851 Lappeenranta	Finland

Last name	First name	Institution	Country
Parkinson	John	University of Wales Swansea, Education Department,Hendrefoelan, SA2 7NB Swansea	U.K.
Passey	Don	Lancaster University / Department of Psychology, Fylde College Lancester University, Lai.Lyf.Lancester	U.K.
Passig	David	Bar-Ilan University, 13 Tyumkin St., 42383 Netanya	Israel
Pearson	John	Monash University, Switchback Road, 3842 Churchill	Australia
Pekkarinen	Eero	Kemi-Tornio Polytechnic, Marina Takalonkatu 3, 94100 Kemi	Finland
Perkinen	Osmo	ICT Learning Centre / University of Helsinki, Lummetie 2 A, 00130 Vantaa	Finland
Persico	Donatella	ITD/CNR, Via de Marini 6, 16149 Genova	Italy
Piipari	Martti	University of Tampere, Pyynikintie 2, PI 607, 33101 Tampere	Finland
Portimojärvi	Timo	University of Tampere, Pyynikintie 2, PI 607, 33101 Tampere	Finland
Power	Clare	CILT, 20 Bedfordbury, WC2N 4LB London	U.K.
Preston	Christina	Future Learning Centre, The Institute Of Education,University Of London, 20 Bedford Way, WC1H 2AL	U.K.
Pulkkinen	Jyrki	University of Oulu, Kasvatustieteiden tiedekunta, 90401 Oulu	Finland
Puper	Hans	C P S, Postbus 1592, 3800 BN Amersfoort	The Netherlands
Pöntinen	Silpa Maria	University of Helsinki, PL 31, 00014 University of Helsinki	Finland
Raninen	Leila	ICT Learning Centre / University of Helsinki, Lummetie 2 A, 00130 Vantaa	Finland
Rebane	Epp	Ministery of Education, Tönismägi 9/12, 15192 Tallinn	Estonia
Rinta-Filppula	Riitta	CERN / University of Helsinki	Finland

Last name	First name	Institution	Country
Rissanen	Marianne	University of Lapland, PO BOX 122, 96101 Rovaniemi	Finland
Ristola	Riikka	University of Helsinki, Minervankatu 2 C 46, 00100 Helsinki	Finland
Rönkä	Aarno	University of Helsinki, PI 30, 00014 University of Helsinki	Finland
Røsvik	Sindre	Giske Kommune, N-6050 Valderoy	Norway
Saarinen	Päivi	ICT Learning Centre / University of Helsinki, Lummetie 2 A, 00130 Vantaa	Finland
Sadeq	Taibah	King´s College London, School of Education, Cornwall House, Waterloo Road, SE1 8WA London	U.K.
Saitoh	Hajime	Graduate School of Engineering,Hokkaido University,Takasugi Heights 201,3-11,Nish 8,Minami 14,	Japan
Salem	Abdel-Badeeh M.	Ain Shams University, Faculty of Computer & Information Sciences, Abbasia, Cairo	Egypt
Salminen	Timo	Karamzin School, Kulloonmäentie 20, 02940 Espoo	Finland
Salonen	Maria	ICT Learning Centre / University of Helsinki, Lummetie 2 A, 00130 Vantaa	Finland
Samways	Brian	Education Training Service / Martineau Education, Balden Road Harborne, B32 2EH Birmingham	U.K.
Sasaki	Hitoshi	Takushoku University, 815-1 Tatemachi, Hachioji, 193-8585 Tokyo	Japan
Saus	Alf	Sandfallet kompetansesenter, Postbox 1113, 9504 Alta	Norway
Schmidt	Erling	Daks - Aalborg Skolevaesen, Loevbakken 6, DK-9400 Noerresundby	Denmark
Schubert	Sigrid	University of Dortmund, Informatik 12, Didaktik der Informatik, D- 44221 Dortmund	Germany
Seddon	Kathy	Exeter University School of Education, High Wall Barnstaple, Devon EX31 2DP	U.K.
Selinger	Michelle	Centre for new Technologies Research in Education, University of Warwick, CV4 7AL Coventry	U.K.

Last name	First name	Institution	Country
Semenov	Alexey Lvovich	Institute of New Technologies of Education, Nizhnaya Radischevskaya, 10, 109004 Moscow	Russia
Sevasti	Afrodite	Computer Technology Institute, Riga Ferraiou 61, 26221 Patras	Greece
Sharbat	Aviva	Bar-Ilan University, 10 Heleny Hamalka st., 46768 Herzliya	Israel
Sheehy	Patricia	Moriah College, 31 Edgecliff Rd., Bondi Junction 2022 Sydney New Shout	Australia
Shield	Lesley	Open University, Centre for Modern Languages, MK7 6AA Milton Keynes	U.K.
Shiferaw	Yiftusira	Ethiopian Science and Technology Commission, Julius-Raab-Strasse 10	Austria
Siekkinen	Martti	University of Joensuu, PL 111, 80101 Joensuu	Finland
Silaste	Riitta	Kuitinmäki School, Kuitinkuja 4, 02210 Espoo	Finland
Simao	Jose Antonio Gazimba	PROALENTEJO, C.C. Vista Alegre - R . Jaime Cortesao,lt.7, 7000 Evora	Portugal
Singh	Manjit	Management pro Association, P.O.Dhilwan, Patti Ramu Ki Kapurthala, 144804 Dhilwan	India
Sinitsa	Katherine	International Research and Training Center of Information Technologies and Systems, P.O.BOX 933, Kiev-87, 252087	Ukraine
Sinko	Matti	Ministry of Education, Meritullinkatu 10, 00170 Helsinki	Finland
Sinor	Stanislav	Charles University Prague,Faculty of Education, M.Rettigove 4,Praha 1, 11639 Praha	Czech Republic
Sipponen	Mika	Harju School, Toivonkatu 2, 08100 Lohja	Finland
Smith	Jenny	Methodist Ladies´ College, 23 Morris Rd, 3158 Upway	Australia
Squires	David	King`s College, School of Education,Waterloo Road, SE1 8WA London	U.K.
Stemmer	Helmut	Ministry of Education and Cultural Affairs, Minoritenplatz 5, 1014 Vienna	Austria

Last name	First name	Institution	Country
Takeya	Makoto	Takushoku University, 815-1 Tate-machi, Hachioji, 193-8585 Tokyo	Japan
Taylor	Harriet	Louisiana State University, ELRC-111 Peabody Hall, 70803 Baton Rouge,LA	USA
Teittinen	Kari	Hyökkälä School, Kirkkotie 11, 04300 Tuusula	Finland
Thomas	Denise	Meriden School, 10-12 Redmyre Rd (p.o pox 78), 2135 Strathfiel	Australia
Tiainen	Jari	Summer University of Häme, Sibeliuksenkatu 25, 13100 Hämeenlinna	Finland
Tripa	Rosa	Universidade Lisboa, CentroNónio,Faculdade Ciéncias, Campo Grande, C4, 32 Piso, 1700 Lisboa	Portugal
Tsakarissianos	George	Lambrakis Research Foundation, I Paparrigopoulou 3, 105 61 Athens	Greece
Tuisk	Terje	Phare ISE Programme, Veski 4, 51005 Tartu	Estonia
Tuovinen	Juhani	Monash University,Celts, Centre for Learning and Teaching Support, 3842 Churchill,Vic	Australia
Turcsányi-Szabó	Márta	Eotvos Lorand University, Dept.Inform.Methodology,Pazmany Peter Setany 1.D.,1117 Budapest	Hungary
Turpeinen	Juha	University of Oulu, Kauppakatu 34 A 5, 87100 Kajaani	Finland
Turpeinen	Soili	Järvenpää Upper Sec.School, Urheilukatu 7-9, 04400 Järvenpää	Finland
Turunen	Ari	Tuonela School, Mandinkuja 10 B, 04400 Järvenpää	Finland
Wager	Petra	University of Helsinki, PL 8, 00014 University of Helsinki	Finland
Wahlström-Ståhl	Britt	Katrinelunds Gymnasieskola, Box 7034, 850 07 Sundsvall	Sweden
Vainio	Leena	ICT Learning Centre / University of Helsinki, Lummetie 2 A, 00130 Vantaa	Finland
Vainio	Laura	ICT Learning Centre / University of Helsinki, Lummetie 2 A, 00130 Vantaa	Finland

Last name	First name	Institution	Country
Waite	Philip	Bibliotech, Unit 2, 50 Carnwath Road, London SW6 3EG	U.K.
Wang	Jiqing	East China Normal University, 3663 Zhongshan North Road, 200062 Shanghai	China
Wasström	Ulf	Nordic Council of Ministers, Sture Strandstraede 18, DK- 1255 Copenhagen	Denmark
Watson	Deryn	King´s College London, Waterloo Road, SE1 8WA	O.K.
Weber	Wolfgang	Landesinstitut fuer Schule und Weiterbildung, Paradieser Weg 64,59494 Soest	Germany
Verdu	Maria Jesus	CEDETEL, Parque tecnologico de Boecillo, 47151 Boecillo (Valladolid)	Spain
Wheeldon	Judith	Abbotsleigh, PO BOX 2 Wahroonga, 2076 Wahroonga	Australia
Wheeler	Steve	University of Plymouth, Douglas Avenue, Exmouth, Devon EX8 2AT	U.K
Whelan	Robert	European Schoolnet, Ave Pleiades 11, B-1200 Brussels	Belgium
Wibe	Jan	University of Trondheim, Senter for etterutdanning, NTNU, 7491 Trondheim	Norway
Willberg	Mikael	Summer University of Häme, Sibeliuksenkatu 25, 13100 Hämeenlinna	Finland
Virtanen	Leena	The Helsinki City College of Social and Health Care, Lehtikuusentie 4, 00270 Helsinki	Finland
Viteli	Jarmo	Finnish Information Processing Association, University of Tampere	Finland
Yli-Hallila	Elisa	Espoo Polytechnic, Lehtimäentie 1 C, 02770 Espoo	Finland
Yokochi	Kiyoshi	Beijing Normal University (Yamanashi University),4 of 8 2-chome, Matsugaoka,Nakano-ku,165-0024 Tokyo	Japan
Zelenda	Stanislav	Charles University, Ke Karlovu 3, 121 16 Prague	Czech Rebublic
Zibert	Alenka	Elementry School OS Cvetka Golarja, Frankovo 51	Slovenia

Last name	First name	Country	E-Mail
Kirby	Jeffry	Australia	jkirby@abbotsleigh.nsw.edu.au.
James	Josie	Australia	Jjames.staff@sthildas.gld.edu.au
Grabar	Marie	Australia	Marie.Grabar@vu.edu.au
Nebauer	Kaye	Australia	knebauer@nexus.edu.au
Johns	Susan	Australia	sejohns@loretonh.nsw.edu.au
Moulds	Peter	Australia	pmoulds@bggs.qld.edu.au
Tuovinen	Juhani	Australia	Juhani.Tuovinen@Celts.monash.edu.au
Gibbons	Pamela	Australia	p.gibbons@mary.arv.edu.au
Dowling	Carolyn	Australia	C.dowling@mercy.acu.edu.au
Sheehy	Patricia	Australia	psheehy@ozmail.com.au
Downes	Toni	Australia	t.downes@uws.edu.au
Smith	Jenny	Australia	college@mlc.vic.edu
Kazlauskas	Alanah	Australia	a.kazlauskas@mackillop.acu.edu.au
Murray	Joy	Australia	jomurray@ozemail.com.au
Wheeldon	Judith	Australia	headmistress@abbotsleigh.nsw.edu au
Thomas	Denise	Australia	dthomas@meriden.nsw.edu.au
Hawes	Kym	Australia	gbndec@nexus.edu.au
Hopkins	Josie	Australia	hopkinjl@mlc.vic.edu.au
Mallam	Rosemary	Australia	stedwards@tac.com.au
Mallam	Shane	Australia	stedwards@tac.com.au
McDougall	Anne	Australia	anne.mcdougall@education.monash.edu.au
Douglas	Janet	Australia	jdouglas@roseville.nsw.edu.au
Nicholson	Paul	Australia	pauln@deskin.edu.au
Pearson	John	Australia	john.pearson@education.monash.edu.au
Knierzinger	Anton	Austria	kna@mail.padl.ac.at
Stemmer	Helmut	Austria	helmut.stemmer@bmuk.gv.at
Neuner	Walter	Austria	neu@mail.padl.ac.at

8.-10 Febr. 2000

Alborg.

Last name	First name	Country	E-Mail
Shiferaw	Yiftusira	Austria	shiferaw@inflab.uni-linz.ac.at
Christiaen	Hubert	Belgium	Hubert.Christiaen@kc.kuleuven.ac.be
Whelan	Robert	Belgium	Robert.Whelan@eun.org
Miller	Larry	Canada	millerl@educ.queensu.ca
Boyd	Larry	Canada	l.boyd@newminas.ednet.ns.ca
Lagos	Sebastián	Chile	elagos@entelchile.net
Chen	Qi	China	chengi@email.bnu.edu.cn
Wang	Jiqing	China	jqwang@public4.sta.net.cn
Zelenda	Stanislav	Czech Rebublic	lustigo@plk.mff.cuni.cz
Macek	Tomáš	Czech Republic	macek@cs.felk.cvut.cz
Cernochova	Miroslava	Czech Republic	miroslava.cernochova@pedf.cuni.cz
Sinor	Stanislav	Czech Republic	stanislav.sinor@pedf.cuni.cz
Mannova	Boba	Czech Republic	Mannova@Cslab.felk.cvut.c3
Kari	Soini	Denmark	SK@BROCK.DK
Wasström	Ulf	Denmark	idun@ci.kk.dk
Mathiasen	Helle	Denmark	hema@dhl.dk
Hedegaard	Kristian	Denmark	kristian.hedegaard@nnp.dk
Dam	Erik	Denmark	erik.dam@skolekom.dk
Hansen	Hans Christian	Denmark	HC@udd.aalsem.dk
Bollerslev	Peter	Denmark	peter.bollerslev@sitc.dk
Schmidt	Erling	Denmark	Eachm?daks.dk
Larsen	Michael	Denmark	michael@dfs.dk
Jørgensen	Dan Cort	Denmark	dajo@tietgen.dk
Laursen	Mogens	Denmark	mola@tietgen.dk
Salem	Abdel-Badeeh M.	Egypt	absalem@asunet.shams.eun.eg
Lindemann	Ene	Estonia	ene@hm.ee
Tuisk	Terje	Estonia	ttuis@ut.ee

ESCHM@DAKS.DK

Last name	First name	Country	E-Mail
Rebane	Epp	Estonia	epp@hm.ee
Hillman	Eero	Finland	ehillmann@edu.espoo.fi
Kurki	Matti	Finland	matti.kurki@atk-instituutti.fi
Komonen	Christian	Finland	chrisse@netscape.net
Kivinen	Risto	Finland	risto.kivinen@edu.hel.fi
Keski-Hankola	Kaija	Finland	kaijakh@hotmail.com
Hännikäinen	Kari	Finland	paokaha@info2.info.tampere.fi
Horila	Mikko	Finland	mikko.horila@uta.fi
Lehtinen	Erno	Finland	Erno.Lehtinen@utu.fi
Forssén	Eva	Finland	Eva.Forssén@helsinki.fi
Aho	Matti	Finland	Matti.Aho@urova.fi
Helin	Erkko	Finland	erkko.helin@helsinki.fi
Turunen	Ari	Finland	ari.turunen@saunalahti.fi
Rissanen	Marianne	Finland	Marianne.Rissanen@urova.fi
Lihr	Jyrki	Finland	jyrki.lihr@koulut.vantaa.fi
Korhonen	Maritta	Finland	maritta.korhonen@psp.fi
Ristola	Riikka	Finland	riitta.ristola@pp.inet.fi
Pulkkinen	Jyrki	Finland	jyrki.pulkkinen@oulu.fi
Pekkarinen	Eero	Finland	eero.pekkarinen@viete.tokem.fi
Hyvärinen	Juha	Finland	juha@megabaud.fi
Salonen	Maria	Finland	Maria.Salonen@helsinki.fi
Huovinen	Liisa	Finland	Liisa.Huovinen@helsinki.fi
Hynninen	Pauli	Finland	phynnine@edu.espoo.fi
Karvinen	Riitta	Finland	Riitta.Karvinen@edu.hel.fi
Kiesi	Ella	Finland	Ella.Kiesi@oph.fi
Korhonen	Aino	Finland	aino.korhonen@helsinki.fi
Kuuliala	Varpu	Finland	Varpu.Kuuliala@hameenliitto.fi

Last name	First name	Country	E-Mail
Kylämä	Marja	Finland	Marja.Kylama@helsinki.fi
Merisaari	Leena	Finland	Leena.Merisaari@ttlry.fi
Pakarinen	Vesa	Finland	vesa.pakarinen@lut.fi
Perkinen	Osmo	Finland	Osmo.Perkinen@helsinki.fi
Nissinen	Pasi	Finland	pasi.nissinen@evamk.fi
Portimojärvi	Timo	Finland	hotipo@uta.fi
Siekkinen	Martti	Finland	Martti.Siekkinen@joensuu.fi
Vainio	Leena	Finland	Leena.Vainio@helsinki.fi
Haapanen	Eija	Finland	Eija.Haapanen@dipoli.hut.fi
Karjalainen	Heikki	Finland	hk@iki.fi
Joutsimäki	Arto	Finland	arto.joutsimäki@koulut.vantaa.fi
Lautiola	Hannele	Finland	lautiola.silva@kolumbus.fi
Saarinen	Päivi	Finland	
Kylämä	Jukka	Finland	
Vainio	Laura	Finland	
Sinko	Matti	Finland	Matti.Sinko@minedu.fi
Willberg	Mikael	Finland	tymiwi@uta.fi
Piipari	Martti	Finland	hojavi@uta.fi
Ollikainen	Raili	Finland	raila.ollikainen@hut.fi
Pöntinen	Silpa Maria	Finland	simapo@hotmail.com
Salminen	Timo	Finland	tsalmin@edu.espoo.fi
Silaste	Riitta	Finland	rsilaste@edu.espoo.fi
Sipponen	Mika	Finland	mika.sipponen@lohja.fi
Teittinen	Kari	Finland	kateitti@megabaud.fi
Yli-Hallila	Elisa	Finland	elisa.yli-hallila@evamk.fi
Turpeinen	Soili	Finland	soili.turpeinen@saunalahti.fi
Kontula	Lassi	Finland	

Last name	First name	Country	E-Mail
Lipponen	Lasse	Finland	Lasse.Lipponen@helsinki.fi
Lind	Liisa	Finland	Liisa.Lind@oph.fi
Ilomäki	Liisa	Finland	Liisa.Ilomäki@helsinki.fi
Mahlamäki-Kultanen	Seija	Finland	Seija.MahlamakiK@mail.vak.fi
Virtanen	Leena	Finland	leena.virtanen@rocketmail.com
Viteli	Jarmo	Finland	Jarmo.Viteli@uta.fi
Tiainen	Jari	Finland	Jari.Tiainen@hameenliitto.fi
Raninen	Leila	Finland	Leila.Raninen@helsinki.fi
Wager	Petra	Finland	petra.wager@helsinki.fi
Koli	Hanne	Finland	Hanne.Koli@hkoli.pp.fi
Leminen	Arja	Finland	arja.leminen@edu.hel.fi
Nieminen	Marianna	Finland	marianna.nieminen@oph.fi
Koivisto	Jari	Finland	Jari.Koivisto@oph.fi
Turpeinen	Juha	Finland	juha-matti.turpeinen@oulu.fi
Rönkä	Aarno	Finland	aarno.ronka@helsinki.fi
Rinta-Filppula	Riitta	Finland	Rinta@ppe.msm.cern.ch
Ollila	Mirja	Finland	mollila1@edu.espoo.fi
Godinet	Hélene	France	helene.godinet@grenoble.iufm.fr
Klein	Andrée	France	andree.klein@grenoble.iumf.fr
Grandbastien	Monique	France	monique.grandbastien@loria.fr
Marzin	Patricia	France	patricia.marzin@grenoble.iumf.fr
Cornu	Bernard	France	bernard.cornu@grenoble.iufm.fr
Schubert	Sigrid	Germany	schubert@cs.uui - dortmund.de
Hauf-Tulodziecki	Annemarie	Germany	annem@uni-paderborn.de
Graf	Klaus D	Germany	graf@inf.fu-berlin.de
Weber	Wolfgang	Germany	wolfgang.weber@mail.lsw.nrw.de
Hubwieser	Peter	Germany	Peter.Hubwieser@in.tum.de

Last name	First name	Country	E-Mail
Sevasti	Afrodite	Greece	sevastia@cti.gr
Tsakarisianos	George	Greece	gtsaka@lrf.gr
Koutra	Chryssoula	Greece	chryssa@lrf.gr
Nagy	Margaret	Hungary	marg@szef.u-szeged.hu
Farkas	Karoly	Hungary	drfarkas@hotmail.com
Kõ	Andrea	Hungary	ko@informatika.bke.hu
Turcsányi-Szabó	Márta	Hungary	turcsanyine@ludens.elte.hu
Kristjánsdòttir	Anna	Iceland	ak@khi.is
Jakobsdottir	Solveig	Iceland	soljak@khi.is
Singh	Manjit	India	-
Sharbat	Aviva	Israel	sharbata@mail.inter.net.il
Eden	Sigal	Israel	ueden@trendline.co.il
Passig	David	Israel	passig@mail.biu.ac.il
Katz	Yaacov	Israel	Katzya@mail.biu.ac.il
Molfino	Maria Teresa	Italy	molfino@ima.ge.cnr.it
Bottino	Rosa Maria	Italy	bottino@ima.fe.cnr.it
Midoro	Vittorio	Italy	midoro@itd.ge.cnr.it
Forcheri	Paola	Italy	forcheri@ima.ge.cnr.it
Chiappini	Giampaolo	Italy	chiappini@ima.ge.cnr.it
Avellis	Giovanna	Italy	g.avellis@tno.it
Lemut	Enrica	Italy	lemut@ima.ge.cnr.it
Gazzaniga	Giovanna	Italy	gianna@ian.pv.chr.it
Persico	Donatella	Italy	persico@itd.ge.cnr.it
Koizumi	Hisao	Japan	koizumi@k.dendai.ac.jp
Murakami	Yoshikazu	Japan	muyoshi@dpc.ehime-u.ac.jp
Ogawa	Junichiro	Japan	
Sasaki	Hitoshi	Japan	sasaki@cs.takushoku-u.ac.jp

Last name	First name	Country	E-Mail
Matsuzawa	Masao	Japan	
Yokochi	Kiyoshi	Japan	
Takeya	Makoto	Japan	takeya@cs.takushoku-u.ac.jp
Saitoh	Hajime	Japan	hajime@complex.eng.hokudai.ac.jp
Maeda	Takashi	Japan	maeda@do-johodai.ac.jp
Inaba	Akiko	Japan	inaba@ai.sanken.osaka-u.ac.jp
Dagiene	Valentina	Lithuania	dagiene@kte.mii.lt
Helland	Gunnhild	Norway	gunnhild.helland@komsa.no
Saus	Alf	Norway	Alf.Saus@komsa.no
Røsvik	Sindre	Norway	sindre.rosvik@mimer.no
Wibe	Jan	Norway	jan.wibe@seu.allforsk.ntnu.no
Watson	Deryn	O.K.	deryn.watson@kcl.ac.uk
Dalek	Krystyna	Poland	dalek@mimuw.edu.pl
Dunin-Borkowski	Jan	Poland	dubork@oeiizk.waw.pl
Simao	Jose Antonio Gazimba	Portugal	pro.alentejo@mail.telepac.pt
Monteiro	Cecilia	Portugal	ceciliam@eselx.ipl.pt
Maia	Mário	Portugal	mariom@eselx.ipl.pt
Cabeca	Manuel Dinis	Portugal	pro.alentejo@mail.telepac.pt
Tripa	Rosa	Portugal	
Chagas	Isabel	Portugal	ichagas@fc.ul.pt
Semenov	Alexey Lvovich	Russia	fax: 915-6963
Osipova	Elena	Russia	elena_osipova@hotmail.com;elena@icape.nw.ru
Baranovic	Roman	Slovakia	roman.baranovic@pobox.sk
Nemethova	Maria	Slovakia	nemethova@fmph.uniba.sk
Campelj	Borut	Slovenia	borut.campelj@guest.arnes.si
Zibert	Alenka	Slovenia	alenka.zibert@guest.arnes.si
Verdu	Maria Jesus	Spain	mverdu@cedetel.es

Last name	First name	Country	E-Mail
Ortega	Manuel	Spain	mortega@inf-cr.uclm.es
Wahlström-Ståhl	Britt	Sweden	britt.wahlstrom-stalh@skola.sundsvall.se
Möllenberg	Christer	Sweden	christer.mollenberg@skola.sundsvall.se
Forslund	Kerstin	Sweden	kerstin.forslund@skola.sundsvall.se
Appelberg	Elisabeth	Sweden	lisbeth.appelberg@educ.umu.se
Hjertqvist	Kersti	Sweden	kersti.hjertgvist@utbilding.stockholm.se
Gustavsson	Mikael	Sweden	mikgus@stk.stockholm.se
Buettner	Yvonne	Switzerland	ybuettner@access.ch
Morel	Raymond	Switzerland	morel@uni2a.unige.ch
Dunand-Filliol	Pierre	Switzerland	dunand@uni2a.unige.ch
Fissér	Petra	The Netherlands	p.h.g.fisser@oc.utwente.nl
Lam	Ineke	The Netherlands	i.lam@ivalos.uu.nl
Lockhorst	Ditte	The Netherlands	d.lockhorst@ivlos.uu.nl
Puper	Hans	The Netherlands	h.puper@cps.nl
Hogenbirk	Pieter	The Netherlands	P.Hogenbirk@c.p.s.nL
Wheeler	Steve	U.K	swheeler@playmouth.ac.uk
Alexiadou	Nafsika	U.K.	eda28@educ.ac.uk
Preston	Christina	U.K.	c.preston@ioe.ac.uk
Waite	Philip	U.K.	@bibliotech.net
Haworth	William	U.K.	william@well.ac.uk
Samways	Brian	U.K.	Brian_Samways@birmingham.gov.uk
Hauck	Mirjam	U.K.	m.hauck@open.au.uk
Kendall	Michael	U.K.	Mike-Kendall@birmingham.gou.uk
Denning	Tim	U.K.	eda 05@educ.keele.ac.uk
Sadeq	Taibah	U.K.	taiba.sadek@kcl.ac.uk.
Loveless	Avril	U.K.	alm@pavilion.co.uk
Cox	Margaret	U.K.	MJ.Cox@kcl.ac.uk

Last name	First name	Country	E-Mail
Power	Clare	U.K.	clare.power@cilt.org.uk
Selinger	Michelle	U.K.	m.s.selinger@warwick.au.uk
Seddon	Kathy	U.K.	hello.seddons@virgin.net
Barnes	Sally	U.K.	sallu.barnes@bristol.ac.uk
Blakeley	Barry	U.K.	barry.blakeley@kel.ac.uk
Shield	Lesley	U.K.	L.E.SHIELD@OPEN.AC.UIC
Passey	Don	U.K.	d.passey@lancester.ac.uk
Squires	David	U.K.	david.squires@kcl.ac.uk
Abbot	Chris	U.K.	chris.abbott@kcl.ac.uk
Aston	Mike	U.K.	mike@kcited.demon.co.uk
Benzie	David	U.K.	Stadhb@lib.marjon.ac.uk
Collison	Jill	U.K.	j.collinson@uscm.ac.uk
Fulton	Freddy	U.K.	freddy@bibliotech.net
Parkinson	John	U.K.	j.parkinson@swansea.ac.uk
Kennewell	Steve	U.K.	s.e.kennewell@swansea.ac.uk
Brown	Doug	U.K.	doug-brown@birmingham.gov.uk
Sinitsa	Katherine	Ukraine	kath@umod.kiev.ua
Ferrucci	Beverly	USA	bferrucc@keene.edu
Taylor	Harriet	USA	taylor@asterix.ednet.lsu.edu
Carter	Jack	USA	jcarter@suhayword.edu
Cannings	Terence	USA	cannings@pepperdine.edu
Marshall	Gail	USA	74055.652@compuserve.com

12.6.99

Programme

ComNEd'99

June 13-18, 1999

IFIP wg´s 3.1 and 3.5 (in co-operation with 3.6) Open Conference

Communications and Networking in Education:

Learning in a Networked society

Sun 13	Mon 14	Tue 15	Time	Wed 16	Thu 17	Fri 18
	Breakfast	Breakfast	7	Breakfast	Breakfast	Breakfast
	Opening Ceremony Keynote	Action - Reaction session; Papers Papers Papers	9.00 9.30 10.00	Keynote	Action - Reaction session; Papers Papers Papers	Papers Papers Papers Papers Papers Papers
	Coffee	Coffee	10.30	Coffee	Coffee	Coffee
	Papers Papers Papers Papers Papers Papers	Theme Panel; Theme Panel	11.00 11.30 12.00	Papers Papers Papers Papers Papers Papers	Theme Panel; Theme Panel	Keynote Closing Ceremony
Registration Sightseeing of Hämeenlinna and bus transfer to the town centre Welcome reception	Lunch	Lunch	12.30	Lunch	Lunch	Lunch
	Theme Panel; Theme Panel	Finnish Plenary & Parallel	14.00 14.30 15.00 15.30	Cruise & Excursions in Häme region	Papers Papers Papers Papers Papers Papers	
	Coffee	Coffee	16.00		Coffee	
	Papers Papers Papers Papers Demos Posters	Presen-tations	16.30 17.00 17.30 18.00		Papers Papers Papers Papers Demos Posters	
Buffet	Dinner buffet	Finnish Evening Sauna Midnight Swim	19	Dinner buffet	Dinner	

SUNDAY 13

13.00	Registration desk opened
17.00	Combined Sightseeing of Hämeenlinna and transportation to town centre
17.30	Welcoming Reception at Hämeenlinna Art Museum, **Tapani Hellstén**, Deputy Mayor of Hämeenlinna
18.30	Bus service back to Aulanko
19.00	Buffet

MONDAY 14

7.00	Breakfast restaurant, swimming pool & saunas open		
9.00	Aulankosali / Hall 23+24 **Opening ceremony** **Olli-Pekka Heinonen**, Minister of Transport and Communications of Finland **Professor Bernard Cornu**, Conference Chair, The International Federation for Information Processing Music by **Jorma Liimatta** (cello) and **Folke Gräsbeck** (piano): Jean Sibelius: Romance Opus 78 No2 and Rondino Opus 81 No 2 Felix Mendelssohn-Bartholdy: Lied ohne Worte Opus 109 Carl Maria von Weber: Adagio und Rondo		
9.35	Aulankosali / Hall 23+24 **Keynote Speech** **Alexei Semenov**, Institute of New technologies: Technology and School Transformation		
10.30	Coffee		
11.00	Hall 23 **Constructivist approach / Paper session** **Pamela Gibbons, Kathryn Crawford, Susan Crichton, Robert Fitzgerald**: Cognition and Information Technologies in Context	Hall 22 **Psychological issues / Paper session** **Yacoov Katz**: The Comparative Suitability of Three ICT Distance Learning Methodologies for College Level Instruction	
11.30	Hall 23 **Enrica Lemut, Simonetta Greco**: Technology and Systemic Thinking in Mathematics	Hall 22 **Juhani Tuovinen**: Research Framework and Implications for Online Multimedia Education Practice Based on Cognition Research	
12.00	Hall 23 **Qi Chen**: Use ICT to support Constructive Learning: Create an Interactive Multimedia-Based Learning Environment	Hall 22 **Steve Wheeler**:: Caught in the Spotlight: User Reactions To Videoconferencing	
12.30	Lunch		
14.00	Hall 22 **Panel session/Visions of future teaching - What are the challenges?** Chair: **Sindre Røsvik** **Petra Fisser**: The vision of a telematics university: using ICT to support instructors and students **Andrea Kõ, Andras Gabor**: Knowledge Society Challenges the Higher Education? **Other presenters:** **Larry Miller, Jillian deJean, Rebecca Miller** **Giovanna Gazzaniga**	Hall 23 **Demonstration / EUN Schoolnet** **Ella Kiesi, Robert Whelan:** Virtual School **Tim Denning**: Pedagogical Guidelines for the Professional Development of Teachers	Hall 24 **Panel session / Collaboration in learning** Chair: **Raymond Morel** **Lasse Lipponen, Kai Hakkarainen, Hanni Muukkonen, Marjaana Rahikainen**:: Promoting Educational Change with Computer-Supported Collaborative Learning **Paul Nicholson**: Linking science thinking and learning with software **Anne McDougall**: Issues in learning with new technologies
16.00	Coffee		

... MONDAY 14

16.30	Hall 22 **Paper session / Teacher education & Pedagogy (Informatics Curriculum)** Chair: **Anton Knierzinger** **Peter Hubwieser, Manfred Broy**: Educating Surfers or Craftsmen: Introducing an ICT Curriculum for the 21st Century **Valentina Dagiene**: Programming-based Solution of Problems in Informatics Curricula		Hall 23 **Paper session / The Classroom** Chair: **Raymond Morel** **Rosa Maria Bottino**: Computer-based Communication in the Classroom: Defining a Social Context	
17.30	Hall 22 **Demonstrations / Posters** **Kersti Hjertqvist**: Flexible Learning for the Inhabitants in the city of Stockholm **Hajime Saitoh, Noriko Tanaka, Takashi Maeda, Azuma Ohuchi**: On the Application of the Participants Assistance System in Collaborative Communication Environments to a Collaborative learning. **M.J.Verdu**: A CD-ROM / internet Experience for Primary and Secondary Education	Hall 23 **Demonstrations** **Kathy Seddon**: Butterfly's Sight an innovative Website for the "School of the Future" **Helmut Stemmer**: This is no normal museum, museum@online	Hall 24 **Poster Session** **Harriet Taylor**: The WebQuest Model for Inquiry-Based Learning Supported by the WWW **Li Yueyi**: The Design of the Internet-based resources Bank for Teaching or Learning **Tatjana Kameneva**: Multimedia Interactive Language Learning Environment.	Hall 21 **Poster Session** **Elena Osipova**: Providing Effective Autonomous Learning within the Framework of Existing Educational System in Russia
19.00	Buffet Dinner			
21.00 - 22.30	Sightseeing / City train tour to Aulanko Park, Outlook Tower and Nature Reserve. (Maximum 40 persons, register at info desk!)			

TUESDAY 15

7.00	Breakfast restaurant, swimming pool & saunas open		
9.00	Hall 22 **Action-Reaction Paper Session / Teacher education, pedagogical reflection** Chair: **Peter Bollerslev** **Gail Marshall**: Meaning Making: The Connection between Teacher, Student and Curriculum in ICT Environments	Hall 23 **Paper session / The Classroom** **Steve Kennewell, Howard Tanner, John Parkinson**: A Model for the Study and Design of Teaching Situations with ICT	Hall 24 **Paper Session** **Giovanna Gazzaniga**: Is Distance Learning worth just for Real Distance Students?
9.30	Hall 22 **Don Passey**: How will teachers be prepared for the connected learning community?	Hall 23 **Wang Jiqing, Lu Hong**: A Web-based Instruction Network in a School in China	Hall 24 **Avril M. Loveless**: Creativity, Visual Literacy and Information & Communications Technology (ICT)
10.00	Hall 22 **Rosa Maria Bottino**: Reaction	Hall 23 **Marta Turcsanyi-Szabo**: Imagine a Tool to Express and Explore	
10.30	Coffee		

... TUESDAY 15

11.00	Hall 22 **Paper session** **Vladimir Batagelj, Alenka Zibert, Vladislav Rajkovic, Borut Campelj:** Educational Networks Vision and Reality **David Passig, Sigal Eden:** Enhancing the Induction Skill of Hearing Impaired Children with Virtual Reality Technology **Lesley Shield, Mirjam Hauck, Craig Rodine and Bernard Haezewindt:** The Fluent Project: Creating Richer Online Communities to Support the Distance Language Learner		Hall 24 **T3, Panel session / Support and collaboration of autonomous learners in a European context** Chair: **Ineke Lam** Presenters: **Niki Davis** (by videolink), **Jyrki Pulkkinen, Donatella Persico, Andree Klein** Panel: **Pulkkinen** (Finland), **Persico** (Italy), **Godinet** (France), **Lockhorst** (Netherlands)	Hall 23 **Panel session / EE Net** Chair: **Raymond Morel** Presenters: **Helmut Stemmer, Liisa Lind**
12.30	Lunch			
14.00	Aulankosali / Hall 23+24 **Finnish session** **Matti Sinko** and **Ella Kiesi**: ICT in Finnish Education: Elaborate Strategies and the Rugged Reality?			
15.00	**Finnish parallel sessions, Chairs: Liisa Huovinen, Liisa Ilomäki, Martti Piipari, Leena Vainio**			
	Hall 22 **Minttu Ollila**: Matilda – Telematic Litterature Circle	Hall 21 **Teemu Leinonen:** FLE-tools: A WWW-based Application for Collaborative Learning	Hall 23 **Jari Ikola**: The Teacher's changing role in distance learning in maths in Kaukajärvi Upper Comprehensive School	Hall 24 **Erkki Pitkänen and Päiviö Peltokorpi**: Creating and Developing a Centre for Distance Education
15.30	Coffee			
16.00	**Finnish parallel sessions**			
	Hall 22 **Minttu Ollila**: Matilda – Telematic Litterature Circle	Hall 21 **Teemu Leinonen:** FLE-tools: A WWW-based Application for Collaborative Learning	Hall 23 **Jari Ikola**: The Teacher's changing role in distance learning in maths in Kaukajärvi Upper Comprehensive School	Hall 24 **Erkki Pitkänen and Päiviö Peltokorpi**: Creating and Developing a Centre for Distance Education
16.30 - 17.00	**Finnish parallel sessions**			
	Hall 23 **Riitta Karvinen**: Welcome to NetD@ys'99		Hall 22 **Riitta Rinta-Filppula:** Flexible Learning Over the High Speed Internet Web University	
18.30	Transportation by bus to Vanajanlinna			
19.00 19.30 22/23	FINNISH EVENING AT VANAJANLINNA: MUSIC (**Kaija Saariaho:** Lonh for soprano and tape, **Pia Freund,** soprano**, Andrew Bentley**, electronics DINNER, SAUNA (music by **Heikki Mäenpää)** MIDNIGHT SWIM Transportation to Aulanko			

PLEASE VISIT THE EXHIBITION IN THE GROUND FLOOR

Latest educational ICT projects by schools, colleges, universities and companies

ONLY MONDAY THE 14TH & TUESDAY THE 15TH JUNE !

WEDNESDAY 16

7.00	Breakfast restaurant, swimming pool & saunas open	
9.00	Aulakosali / Hall 23+24 **Keynote Speech** (by videolink)**:** **Margaret Riel**: Center for Collaborative Research in Education, California: Learning Spaces of the Future - Where are we heading?	
10.00	Coffee	
10.30	Hall 22 **Paper Session / Computer-mediated Communications in learning process** Chair: **Toni Downes** **Terence R. Cannings, Sue G Talley**: Online University Degree Programs: Changes in Learning and Teaching	Hall 23 **Paper Session / Changing the role of the teacher** **Joy Murray**: Computer Technology and Teacher Development: A Program to Support Pedagogical Change
11.00	Hall 22 **Kate Denning, Mike Davis**: Computer-mediated Communication in Adult Education: An Emerging Pedagogy	Hall 23 **Svetlana Kudrjavtseva, Valentina Kolos**: Information and Communication Technologies in Distance Learning Process in Ukraine
11.30	Hall 22 **Carolyn Dowling**: Social Interactions and the Construction of Knowledge within Computer Mediated Learning Environments	
12.00	Lunch	
13.30	Transportation by buses	
	CRUISE & EXCURSIONS IN HÄME REGION - Visavuori studio - Iittala glass factory - Lepaa horticultural college wineyard Greeting by **Matti Puotila** Music (accordion) by **Kalle Penttilä**	
19.30	Finnish Picnic	
21.00 - 22.00	Boat Cruise (M/S Silver Moon) to Aulanko	