

TABLE OF CONTENTS

KEYNOTE SPEECH

Status and Trends of Distance-Education Research

Börje Holmberg Private Distance-Education University of Applied Sciences Darmstadt

EDUCATIONAL SYSTEMS AND STRUCTURES

Electronic Education in Europe: Recent Experience, Research, and Policy Implications **6**

Dr Andrew Robinson, Assistant Director (Europe)

The Organisation of Distance Education: a Comparative Perspective 10

Jeroen Huisman, Center for Higher Education Policy Studies, University of Twente, the Netherlands

Policies and Practice in Open and Distance Learning: The Phare Multi-Country Programme for Distance Education 1995- 1999 13

***Kay Mac Keogh, National Distance Education Centre, Dublin City University, Ireland
Hans-Peter Baumeister, Deutsches Institut für FernStudienForschung, Tuebingen, Germany***

Innovations in Teaching and Learning Through Case Studies within a Collaborative Virtual Environment 17

Michael Mulvey, Faculty of Tourism and Food, Dublin Institute of Technology, Ireland

Open and Distance Learning Activities and Results at Politecnico Di Torino **20**

Laura Farinetti, Politecnico di Torino - Ce.Te.M., Italy

Ukrainian Distance Education: The Gateway to the Networked Society **23**

Olena Karas International Research and Training Center UNESCO/IIP of Information and Technologies Systems, Telecommunication Didactic Laboratory

Support of Distance Learning Activities by Educational Networks **26**

Vladimir Batagelj, Matjaž Zaveršnik, University of Ljubljana, Slovenia

Open Learning in Health and Social Care Education: The Case for Co-Ordinated Diversity **29**

Tom Hopkins, Bournemouth University, Institute of Health & Community Studies

The Role of Distance Education in the Development of a European Deaf University **33**

Franz Dotter, Research Centre for Sign Language and Communication of the Deaf, Klagenfurt University, Austria

University College of Kinesitherapy for Normal Persons and for Persons With Special Needs. Organizational and Legislative Backgrounds	36
<i>Assistant Lecturer Penelopia Iancu, Assistant Lecturer Luvinia Popescu Professor Marcel Serban, Ph.D., Professor Mariana Cordun, M.D. National Academy of Physical Education and Sports -Bucharest</i>	
National Academic Network Infrastructure for Educational Systems Deployment in Moldova	40
<i>P. Bogatencov Academy of Sciences of Moldova, G. Secieru, B. Varzari RENAM Association</i>	
ODL Model for Teachers Training	44
<i>Prof. Luciano Galliani - University of Padova</i>	
Some Critical Factors in the Use of New Educational Methods in the Art And Design Fields	48
<i>Eva-Maria Hakola, Leena Koskinen, Pertti Sirviö, University of Art and Design Helsinki, UIAH</i>	
The Model of Studying in Professional Distance Education On-Line Programs at the Center for Extension Studies in Turku University	51
<i>Heli Brander, University of Turku, Center for Extension Studies</i>	
Design of an ODL Environment in Orthodontics	54
<i>Klaus P. Maag, Ludwig-Maximilians University Munich, Department of Orthodontics Ingrid Rudzki-Janson, LMU-Miunchen, Ludwig-Maximilians University Munich, Department of Orthodontics Martin Fischer, Ludwig-Maximilians University Munich, Department of Internal Medicine Harold C. Lyon, Notre Dame College, Division of Sciences, and Ludwig-Maximilians University, Munich, Institute for Informatics, Biometry, and Epidemiology</i>	
A Virtual Business Education: Framework and Case Study	56
<i>Prof. Rouslan Pentchev School of Distance Education, New Bulgarian University</i>	
Reengineering the Distance Education Technology	59
<i>Svetlana Drenska, Yuri Alkalay School of Management, NBU, Sofia</i>	
Online Learning Development Fellowships Research and Managing Change	63
<i>John McCartney, Manchester Metropolitan University, UK</i>	
THE ORGANISATION AND DESIGN OF THE LEARNING PROCESS	
Developing Models for Web-Based Learning: The Interaction Dilemma	67
<i>Dagny Blom, NKS Distance Education</i>	
Researching Online Teaching and Student Support, with Practitioners for Practitioners	70
<i>Jean Wood, University of Edinburgh</i>	

Simulations as Cognitive Tools in a Hypermedia System	73
<i>M. Grigoriadou, Y. Cotronis, K. Papanikolaou University of Athens, Department of Informatics</i>	
Personal and Professional Development Through Open Learning: an Explorative Study	76
<i>Chris Dearnley, University of Bradford, UK Dr. Bob Matthew, University of Glasgow, UK</i>	
Designing and Implementing Virtual Practicums for Professional Education	79
<i>Sergio Vasquez Bronfman, Ecole Supérieure de Commerce de Paris</i>	
Central Issues Regarding Research and Innovation in Distance Education at the University College of Gävle Sweden	82
<i>Inger Johansson, Karin Lindsten, William Males, Department of Humanities and Social Science, University College of Gävle</i>	
Long Distance Learning Courses about Nutrition for Health Professionals	85
<i>J.Alfredo Martinez, Marta Cuervo, Susana Santiago, and Zciar Astiasaran Departments of Physiology and Nutrition, and Food Sciences University of Navarra</i>	
Media Based Cooperative Teaching between University and Industry	88
<i>Freimut Bodendorf and Manfred Schertler, University of Erlangen-Nuremberg</i>	
A New Tool for Distance Education	91
<i>Yiannis Koumpouros - Biomedical Engineering Laboratory, Department of Electrical & Computer Engineering, National Technical University of Athens, Elias Maglogiannis - Biomedical Engineering Laboratory, Department of Electrical & Computer Engineering, National Technical University of Athens, Gregory Zeibekakis - Department of Automation, Technological Educational Institute of Piraeus, Dimitrios Koutsouris - Biomedical Engineering Laboratory, Department of Electrical & Computer Engineering, National Technical University of Athens, Dimitrios Kozakis - Data Control Systems L.T.D.</i>	
The System Analysis of Distance Learning	94
<i>Nataliya D. Pankratova, Olga V. Makyeyeva, Institute for Applied System Analysis</i>	
Interactions and User Management in a Tele-Learning Web-Based Course	97
<i>Adina Magda Florea, "Politehnica" University of Bucharest, Daniel Kayser, Université Paris XIII, Stefan Gheorghe Pentuc, "St. cel Mare " University of Suceava</i>	
The Specificity of Distant Teaching and Studies at Russian State Open Technical University of Railway Transportation	100
<i>A. T. Demchenko RSOTURT (Moscow), A. E. Sargsyan RSOTURT (Moscow), G. P. Noskov RSOTURT (Voronezh), Yu. E. Lozotsev RSOTURT (Voronezh)</i>	
Training the Master Course Students: Learning by Sharing the Experience	103
<i>K. Sinitza, A. Manako, D. Verenich, IRTC IT IS UNESCO/HP</i>	

STUDENT-TEACHER INTERACTION

- Diagnosing Student Support Needs Using a Learning Support Needs Questionnaire – A Comparison of Distance Learning and Campus Based Students 107
Dr Ros Carnwell, Reader in Primary Care Nursing, University of Wolverhampton, Dr Neil Moreland, Associate Dean, School of Education, University of Wolverhampton
- The Impact of Open Learning on Clinical Practice: Interim Results and Research Design Discussed 110
Andrea Cassidy, University of Bradford, School of Health Studies
- Assessing Learner Differences in Distributed Learning Environments 113
Barbara A. Greene, Connie Dillon and Bill Crynes University of Oklahoma
- The Teacher Training in Distance Education 117
Lilianna Aniola-Jedrzejek Poznan University of Technology, Anna Grabowska Technical University of Gdansk
- Student Support in Distance Education – What Do Students Want from Their Tutor? 120
Anne Gaskell and Ormond Simpson UKOU
- Comparing Expectations of European Students on ODL Courses (The CEESOC Project) 123
Keith Stevenson Leicester University, UK /Open University, UK (on behalf of the CEESOC Project team)
- Specific of Distance Learning Education in Province of Russia 126
Margorskaya Olga, Vladimirov Vitaly International center of distance learning “Baikal-Link”, Irkutsk, Russia
- Development of a Competency Model for the Effective Tutor of Distance Learning 128
Elmira Bantcheva, Yuri Alkalay, NBU, Bulgaria

TEACHING METHODOLOGY AND METHODOLOGICAL INNOVATION

- Redesigning University Education Towards a Dual Mode Approach: The Congruency Problem 131
Martin Valcke, Ghent University & Tammy Schellens, Ghent University
- A Discrete-Event Simulation Tool for ODL 134
A. Cavallone University of Salerno, M. Gaeta CRMPA, F. Orciuoli CRMPA
- Collaborative Re-Use of Educational Software: The Generation of a Multimedia Dataset to Support Student Learning 138
Dawn Ebbrell, Centre for Educational Technology and Development and Sarah. Younie, School of Education, De Montfort University

How to Approach Methodological and Pedagogical Challenges in Designing Ict- Based Learning Environments for Adults	140
<i>Albert Einarsson, The Norwegian State Institution for Distance Education (NFU) Ellen Gard, The Norwegian State Institution for Distance Education (NFU)</i>	
Innovation in Open and Distance Continuing Teacher Education	143
<i>Manuela Malheiro Ferreira, Lucia Amante, Lina Morgado Universidade Aberta Lisboa - Portugal</i>	
A Generic Model for Web-Based Open Learning	146
<i>John Rosbottom, University of Portsmouth Department of Information Systems, UK</i>	
The Role of the Educational Material for Personalised Learning in a Web-Based Course	151
<i>K.A. Papanikolaou, University of Athens, G.D. Magoulas, Brunel University and M. Grigoriadou, University of Athens</i>	
Authentic Management Learning in a Virtual Collaborative Learning Environment	155
<i>Peter van Baalen, Erasmus University Rotterdam Bjorn Thodenius, Stockholm School of Economics</i>	
Continuing Medical Education (CME) – From Satellite to Web	160
<i>Howard L Young, EuroTransMed Foundation</i>	
CADUBALM Computer Assisted Development of teaching Units Based on Authentic Language Materials	163
<i>Claus Steiger, Justus-Liebig- Universitiit Giessen (D)- Transferzentrum Mittelhessen, Eydis West, Justus-Liebig- Universität Giessen (D)- Transferzentrum Mittelhessen Ana Lopez Nohales; Justus-Liebig- Universitiit Giessen (D)- Transferzentrum Mittelhessen</i>	
Modelling the Open and Distance Learning Methods Based on a Computer Algebraic System	166
<i>Klincsik Mihály PTE PMMFK - Sárvári Csaba PTE PMMFK</i>	
SOCIOCULTURAL STUDIES	
Resistance to ICT & ODL : Human Resources Approach in Traditional Universities	169
<i>Dr.Beril Akinci University of Agean, Faculty of Communications, Public Relations Department</i>	
Teacher Education and the Global School System	173
<i>Shlomo Back, Kaye College of Education, Israel</i>	
Net Surfing and Thinking Style	176
<i>Alessandro Antonietti and Barbara Colombo Catholic University of Sacred Heart of Milano, Italy</i>	

Internet-Assisted vs. Traditional Distance Learning: Students' Distinguishing Characteristics 179
Ruth Beyth-Marom, Eran Chajut, Sonia Roccas, The Open University of Israel Lilach Sagiv, The Hebrew University

Toward a Global Learning Community 183
Laszlo I. Varga, Jones Knowledge.comTM Inc., United States

Intercultural Education and Co-Operative Strategies in a Learning Environment of an Open Classroom 185
Pavla Polechová, Charles University Prague, CR, Faculty of Education, Institute for Research and Development of Education and John Willumsen, Blaagaard State College of Education, Copenhagen, Denmark.

Forty Years of Distance Education Research: Results and Future Development 188
Moehle, Horst and Schoenherr, Kurt W., Institute for Adult Education Research

DEVELOPMENT OF INFORMATION AND KNOWLEDGE SYSTEMS

Computer Supported Cooperative Learning Based on Shared Workspaces 190
Konrad Klöckner, German National Research Center for Information Technology (GMD)

What Can Knowledge Modelling Tell Us about Open and Distance Learning? 193
N C Farnes, International Centre for Distance Learning, The Open University

Successful Electronic Forums: a Comparative Analysis 197
Dr S D Stein. Faculty of Economics and Social Science, University of the West of England.

The Observatory of Materials and Virtual Learning Environments at the Universitat Oberta De Catalunya (UOC) 201
By Albert Sangrà (Director, Edu'Lab [Laboratory of Educational Innovation], Universitat Oberta de Catalunya), and Andreu Bellot (Instructional Designer, Universitat Oberta de Catalunya).

Development of Learning Material for User Education- Based on a Survey 205
Róza FRANK, lecturer Berzsenyi Daniel College, LIS Department Szombathely, PhD student of Dept. Technical Education at Technical University Budapest

ECONOMIC AND BUSINESS ASPECTS OF ODL

A New Cost Analysis Model for Networked Learning 208
Charlotte Ash, Sheffield Hallam University, Professor Paul Bacsich, Sheffield Hallam University

Ensuring the Sustainability of Innovation in the Developing World	211
<i>David Seligman, Development Media Services, Jerusalem, Israel</i>	
Genesis: A Generic Network for Satellite Interactive Systems	214
<i>Chris. Bower-man, University of Sunderland</i>	
Small Business Development: ICT and Distance Learning - Preparing for the Future	218
<i>J. P. Connor and B. A. Woodburn The Centre for Enterprise and Management, Bolton Business School, UK</i>	
 VIRTUAL EDUCATION AND ORGANISATIONS	
Open and Distance Learning Environments	221
<i>Maria Amata Garito Professor of Teaching and Learning Technologies Faculty of Psychology - University of Rome "La Sapienza" Director of NETTUNO - Network for the University Everywhere</i>	
Success Factors in Telepresence Teaching: Results from the Blueprint for Interactive Classrooms (BIC) Project Involving European Universities	225
<i>Sally Reynolds and Johan Van Heddegem, Audiovisual Centre, Katholieke Universiteit Leuven, Belgium</i>	
Discussion in an Online Course: The Methodology of Virtual Management Team Meeting	229
<i>Jeanne Schreurs, Danny Lambrechts, Ludwine Meekers, Rachel Moreau, Limburgs Universitaire Centrum</i>	
Collaborative Virtual Reality Approaches for Very Young Language Learners	233
<i>James Milton, University of Wales Swansea, Anastasia Garbi, Exodus SA</i>	
Euroland: A Virtual World Fostering Collaborative Learning at a Distance	236
<i>Maria Beatrice Ligorio - University of Nijmegen (NL) Alessandra Talamo - University of Rome (IT) Robert-Jan Simons - University of Nijmegen (NL)</i>	
The Virtual Campus as a Tool for Innovation in the University	240
<i>Dr Manuel Benito Gómez, Institute of Education, Dr Iñaki Goirizelaia Ordorica School of Engineering and Telecommunications University of the Basque Country, Spain</i>	
Automated Distance Learning Shell for Internet	243
<i>Alex Bakun IASA , Yuri Zaichenko IASA</i>	

DEVELOPMENT OF NEW TECHNOLOGIES

- Development of Interactive TV and Internet-Based Learning Services to the Home and its Impact on Traditional and Distance Learning Institutions **246**
Peter J. Bates, Senior Partner of pjb Associates, UK and Senior Research Associate (part-time) Sheffield Hallam University, United Kingdom (I)
- Video Conference, Streaming Video and Computer Conference in Distance Learning **249**
Lars Sandblom, Örebro University
- The Role of Practice in Engineering Distance Education **252**
Marco Chirico, Anna Marina Scapolla - DIBE University of Genova Italy
- Authoring and Communication Tools for Distance Education **255**
Aurel VLAICU, Valentin MESAROS, Bogdan ORZA, Tibor BOTH - Centre for Multimedia Technologies and Distance Education, Technical University of Cluj-Napoca
- Remote Electronic LAB **258**
Michael E. Auer, Wolfgang Gallent - Carinthia Tech Institute
- Towards a CORBA Domain Interface for Distance Learning and Training 261
L. Anido, M. Llamas, M.J. Fernández, J.C. Burguillo, M. Caeiro and J. Santos ETSI Telecomunicacion, University of Vigo, Spain
- Distance Education for Visually Impaired People in Denmark **264**
Torben Iversen, Fredericia-Middelfart Technical College
- New Linguistic Tool for Eurostudents The Design Spanish - Project **266**
Eeva Mäkinen, University of Art and Design Helsinki UIAH, Pertti Sir-viii, University of Art and Design Helsinki UIAH, Marinela Garcia Fernandez, Universidad Politécnica de Madrid

EVALUATION AND QUALITY

- How to Choose Open and Distance Learning Materials for Lifelong Learning **269**
Alfredo Soeiro Universidade Porto
- Predictive Evaluation and Quality of Distance Learning Systems **272**
Gerard Weidenfeld, LARIC, Centre National d'Enseignement à Distance
- Quality in Web Activities through Case Studies over an Integrated Platform **276**
Marianne POUMAY, Dieudonnk LECLERCQ and Fabian DEMILY, University of Liege, Department of Educational Technology (STE-ULG), Belgium.

From Toolkit to Strategy: Towards an Organisational Approach to the Evaluation of Learning? <i>Matty Smith and David Birchall, Henley Management College</i>	280
Credit Transfer System as the Direction of Education Transformation in Central European Universities <i>Tadeusz Hryniewicz, and Stefan Bartkiewicz, Technical University of Koszalin</i>	283
 RESEARCH IN SCHOOL LEVEL SYSTEMS	
The Use of Distributed Interactive 3D for Collaborative Learning in Schools <i>Tove Kristiansen and Ingeborg Krange Telenor Research and Development, Norway</i>	286
An Approach to Map Pupils' ICT Representations <i>Kathy Kikis-Papadakis, FO.R.T.H.(Greece)</i>	289
Interactive Distance Teaching and Learning Model for Pupils <i>Alenka Makuc Center MIRK, Viljenka Šavli Primary school Solkan, Suzana Geršak Primary school France Prešeren, Luka Zebec and Marko Papić Faculty of Electrical Engineering</i>	293
Strategies and Methods for the Evaluation of Projects on Open Distance Learning: Some Conclusions from the E-HERMES Project <i>J. Albert, E.G. Apostolakis, P. Eisenbarth, G.Th. Kalkanis, H.H. Lewinsky, M. Sarris, S. Savas, S.A. Sotiriou, M. Sperka, G. Sutter, V. Toliás, G. Wolf</i>	297