IFIP
WCCE 2005

Stellenbosch University
South Africa

in cooperation with ICOOL and UNITAR

Conference Programme

Friday, July 1ˢᵗ 2005

| TCO | (14:00 - 18:00) | TC3 Officers Meeting | chair: Jan Wibe | Cillie 5003 |

Saturday, July 2ⁿᵈ 2005

TC 3 1	(09:00 - 12:30)	TC 3 Meeting (Session 1)	chair: Jan Wibe	Cillie 5003
TC 3 2	(14:00 - 18:00)	TC 3 Meeting (Session 2)	chair: Jan Wibe	Cillié 5003
TC 3 D	(20:00 - 23:30)	TC 3 Dinner		De Oewer

Sunday, July 3ʳᵈ 2005

TC 3 3	(09:00 - 12:00)	TC 3 Meeting (Session 3)	chair: Jan Wibe	Cillié 5003
IPC 1	(12:30 - 16:00)	IPC Meeting	chair: Bernard Cornu	Cillié 5003
WG 3.5	(13:00 - 14:30)	IFIP Working Group 3.5 (AGM)	chair: Sindre Rosvik	Lettere 224
T1	(14:30 - 15:00)	Tea		Lettere Cillié
REG 1	(15:00 - 18:00)	Registration		Lettere
WG 3.4	(15:00 - 16:30)	IFIP Working Group 3.4 (AGM)	chair: Barrie Thompson	Lettere 225
WG 3.2	(16:30 - 18:00)	IFIP Working Group 3.2 (AGM)	chair: John Hughes	Lettere 223
WG 3.7	(16:30 - 18:00)	IFIP Working Group 3.7 (AGM)	chair: Adrie Visscher	Lettere 229
LLL	(18:00 - 19:00)	IFIP TC3 Task Force on LLL (AGM)	chair: Brian Samways	Lettere 230

Monday, July 4th 2005

REG 2	(08:00 - 12:00)	**Registration**		Lettere
WG 3.1	(08:30 - 10:00)	**IFIP Working Group 3.1 (AGM)**	chair: **Deryn Watson**	Lettere 223
WG 3.3 1	(08:30 - 10:00)	**IFIP Working Group 3.3 (Working Session 1)**	chair: **Paul Nicholson**	Lettere 225
WG 3.6 1	(08:30 - 10:00)	**IFIP Working Group 3.6 (Working Session 1)**	chair: **Gordon Davies**	Lettere 227
C1	(10:00 - 10:30)	**Coffee**		Lettere Cillié
WG 3.3 2	(10:30 - 12:00)	**IFIP Working Group 3.3 (Working Session 2)**	chair: **Paul Nicholson**	Lettere 225
WG 3.6 2	(10:30 - 12:00)	**IFIP Working Group 3.6 (Working Session 2)**	chair: **Gordon Davies**	Lettere 227
WG 3.6	(12:00 — 13:00)	**IFIP Working Group 3.6 (AGM)**	chair: **Gordon Davies**	Lettere 227
L1	(12:00 - 13:00)	**Lunch**		Lettere Cillié
O	(13:00 — 14:30)	**Opening Session**	chair: **Peter Waker**	Townhall

	Session Chairman - Peter Waker Organising Committee Chairman, WCCE 2005
13:00	Welcome to WCCE 2005
	Professor Bernard Cornu, Chairman International Programme Committee, WCCE 2005
13:10	Welcome to South Africa and Stellenbosch
	Mr. Bruce Kannemeyer, Municipal Manager: Stellenbosch
13:20	Welcome to Stellenbosch University
	Prof. Chris Brink, Rector, Stellenbosch University
13:30	Opening Address
	Mr. Mohamed Enver Surty, Deputy Minister of Education
14:00	ICT in Education - the global challenge
	Dr. Joseph Njimbidt Ngu, Acting Director and Programme Coordinator, UNESCO,
	International Institute for Capacity Building in Africa (IICBA)
14:30	Multimedia Rich Curriculum Delivery through Technology
	Mr. Mdu Gama, Director, Mustek Ltd holding company of Mecer SA
15:00	Tea
15:30	A Strategic approach to Enabling improvements in Teaching and Learning for ALL

16:00	Microsoft's Partners in Learning - Digital Inclusion
	Mr. Alfie Hamid, Education Progamme Manager, Microsoft South Africa
16:30	How Online Learning Can Reach a Global Audience
	Mr. Toby Burton, Vice President, Internet Business Solutions Group EMEA, Cisco Systems Inc.
17:00	Welcome from IFIP TC 3
	Prof. Jan Wibe IFIP TC3 Chairman
17:10	Welcome from ICOOL
	Professor Alain Senteni, University of Mauritius & Chairman ICOOL 2005
17:20	Welcome from Computer Society of South Africa
	Ms. Moira De Roche, President Computer Society of South Africa
	Professor Basie von Solms, Vice President IFIP & IFIP representative for South Africa

MR (17:30 – 19:00) **Welcome Cocktail**   Stellenbosch Town Hall

Sponsored by Stellenbosch Municipality Dress: Jacket & Tie / Smart Casual

Tuesday, July 5th 2005

IC D (08:30 – 10:00) **ICOOL DEMO**   Lettere 226

DM 1 (08:30 – 10:00) **Demo Session 1**   Lettere 225

14 **Anette van Rooyen**, The Development of Interactive Learning Activities for ICT Integration
Country: ZA
Presenter: Anette van Rooyen

P 01.1 (08:30 – 10:00) **Full Paper Session**   chair: P.G. Hogenbirk   Lettere 230

Pre-service Teacher Education

75 **Eric Bruillard**, Study and design of new modalities of learning and work for pre-service teachers assisted by ICT.
Country: FR, *Further authors:* Baron
Presenter: Eric Bruillard

28 **Avril Loveless**, Creativity and ICT as catalysts for change in Teacher Education
Country: GB
Presenter: Dr Avril Loveless

136 **Jocelyn Wishart**, PDAs and handheld PCs: Does potential equate to practice in initial teacher training?
Country: GB, *Further authors:* Andy Ramsden, Angela McFarlane
Presenter: Jocelyn Wishart

P 01.2 (08:30 – 10:00) **Full Paper Session**   chair: Gordon Davies   Cillié 1028

The future for Lifelong Learning

408 **Mike Kendall**, Growing Importance of Lifelong Learning with ICT
Country: GB *Presenter:* Mike Kendall & Tom van Weert

240 Peter Williamson, Crossing the Digital Divide in Little Bounds to the Digital Collection
Country: AU, *Further authors:* Kefford, Dr R.E., Steele, S.L., Vallis, K.G.
Presenter: Peter Williamson

275 Tommy Nordeng, BrainBank– a Topic Maps E-portfolio System for Meaningful Learning
Country: NO, *Further authors:*
Presenter: Tommy Nordeng

P 01.3 (08:30 - 10:00) **Full Paper Session**

chair: **Anne McDougall**   Cillié 3001

HE: distance education

48 Dagrun Sjohelle, Learning potential in net communication
Country: NO
Presenter: Dagrun Sjohelle

145 Dolf Jordaan, Software applications to support international collaboration between educational institutions in developed and developing countries.
Country: ZA, *Further authors:* Jon Gregson
Presenter: Dolf Jordaan

18 Anne Fuller, Distance education teaching and tutoring: Two evolving Australian models
Country: AU, *Further authors:* Penney McFarlane, Patricia Cretchley, Christine McDonald, Cam Le Lam
Presenter: Anne Fuller & Patricia Cretchley

P 01.4 (08:30 - 10:00) **Full Paper Session**

chair: **Judy Beal**   Wilcocks 201

Collaboration and interaction

92 Geoff Romeo, Using scenario planning to develop a shared vision for ICT in education
Country: AU
Presenter: Dr Geoff Romeo

269 Thierry Nodenot, Creating rich Collaborative Learning Scenarios
Country: FR, *Further authors:* Gaio, Mauro Bessagnet, MN Sallaberry, C
Presenter: Marie-Noelle Besagnet

258 Steve Kennewell, Interactive teaching with interactive technology
Country: GB
Presenter: Steve Kennewell

P 01.5 (08:30 - 10:00) **Full Paper Session**

chair: **Margaret Cox**   Wilckocks 323

Management of Learning

76 Brigid Barron, Designing a Computer Science Curriculum for Bermuda's Public Schools
Country: US, *Further authors:* Caitlin K. Martin, Eric Roberts
Presenter: Eric Roberts

289 William Marion, Preparation for Teaching a CC2001 Discrete Structures Course: A Joint Effort
Country: US
Presenter: William A Marion

P 01.6 (08:30 - 10:00) **Full Paper Session**

chair: **Paul Nicholson**   Geology

Learning Environments

126 Denis Bouhineau, Two years of use of the APLUSIX system.
Country: FR, *Further authors:* Jean-Francois Nicaud, Hamid Chaachoua, Marilena Bittar and Alain Bronner.
Presenter: Denis Bouhineau

104 Giuseppe Chiazzese, A tool to visualize surfing paths of students.
Country: IT, *Further authors:* Giovanni Todaro
Presenter: Giuseppe Chiazzese

279 Tore Hoel, Standardization as a professional conversation - the need for auxiliary means
Country: NO
Presenter: Tore Hoel

PN 1 (08:30 **Panel Session**
- **KALEIDOSCOPE: A European Network for Excellence in**
10:00) **Technology - Enhanced Learning**

chair: Lettere
Rosa Maria   229
Bottino

Panelists:

Martha Turcsany-Szabo
Ivan Kalas
Martin Owen
Rosa Maria Bottino
proposed by:

446   **Pierre Tchounikine**, KALEIDOSCOPE: A European Network for Excellence in Technology
Enhanced Learning
Country: FR

WS 01   (08:30
-
10:00)   **Workshop 1**

Lettere
227

361   **Delia Kench**, Introduction to object oriented programming in Java using the GOGGA Class
Country: ZA, *Further authors:* Genevieve Wilcook
Presenter: Delia Kench

C2   (10:00 - 10:30)   **Coffee**

Lettere
Cillié

DM 2 (10:30
-
12:00)   **Demo Session 2**

Lettere
225

226   **Pascal Ravesteyn**, Business Process Integration Lab
Country: NL
Presenter: Pascal Ravesteyn

P 02.1   (10:30
-
12:00)   **Full Paper Session**

chair: Lettere
Deryn   230
Watson

In-service Teacher Education

16   **Ann Trewern**, Describes how a government funded nation-wide professional learning community
initiative designed to strengthen teacher professional capacity in ICT
Country: NZ, *Further authors:* Nick Billowes
Presenter: Ann Trewern

13   **Andy Convery**, Exploring Teachers' Understanding of ICT Pedagogy in Practice
Country: GB, *Further authors:*
Presenter: Andy Convery

217   **Nicola Yelland**, Rethinking Curricula with ICT in the Knowledge Era
Country: AU, *Further authors:*
Presenter: Professor Nicola Yelland

P 02.2   (10:30
-
12:00)   **Full Paper Session**

chair: Cillié
Elisabeth   1028
Stacey

LLL: Dealing with Special Students

287   **Wallace Chigona**, Investigation on the Use and Adoptability of Information and Communication
Technology (ICT) as a Tool for Improving Adult Fanctional Literacy in South Africa
Country: ZA, *Further authors:* 4
Presenter: Wallace Chigona

342   **Anthony Jones**, Changing Educational Provision for Stironic Illness
Country: AU, *Further authors:* Margaret Robertson, Anne McDougall
Presenter: Anthony Jones

295   **Gerald Futschek**, Rehabilitation of Prisoners via E-Learning
Country: AT, *Further authors:* Hakan KALINYAPRAK, Horst KARGL
Presenter: Gerald Futschek

P 02.3 (10:30 - 12:00) **Full Paper Session**   chair: **Mikko Ruohonen**   Cillié 3001

HE: theory and practice

31 **Bodil Ask,** The Pedagogical Touch on e-Learning
Country: NO, *Further authors:* Harald Haugen (male)
Presenter: Bodil Ask & Harald Haugen

109 **Henk Plessius,** Educating ICT in context
Country: NL, *Further authors:* Vodegel, Frans
Presenter: Henk Plessius

471 **Maree Pather,** Towards Interoperable Electronic Interaction among Entities in the EEeducational System
Country: ZA

P 02.4 (10:30 - 12:00) **Full Paper Session**   chair: **Joe Turner**   Wilckocks 201

What Works In The Classroom?

450 **Tanya Harber Stuart,** Interactive Whiteboards
Country: GB
Presenter: Tanya Harber Stuart

298 **Jenny Masters,** What Works In The Classroom? How an Exemplary Teacher Supports Children Using Computers
Country: AU
Presenter: Jenny Masters

313 **Judy Beal,** Students Online - What works?
Country: AU
Presenter: Judy Beal

P 02.5 (10:30 - 12:00) **Full Paper Session**   chair: **Marta Turcsanyi-Szabo**   Wickocks 323

Analysis of what is successful

134 **Jianwei Zhang,** Harnessing Technology during the Transition of Learning Cultures in the West and East
Country: CN, *Further authors:* Qi Chen
Presenter: jianwei Zhang

114 **I.E. du Toit,** The effect of ICT curriculum support on the mearsured skills levels of learners two sub - projects...
Country: ZA
Presenter: Isabel du Toit

491 **Ann Lamont,** Supporting Education through Technology:
Country: ZA, *Further authors:*
Presenter: Fatima Adam

P 02.6 (10:30 - 12:00) **Full Paper Session**   chair: **Barrie Thompson**   Geology

Enhancing interaction between students

368 **M. C. Moraes,** Enhancing interaction through improvisational interface agents
Country: BR, *Further authors:* A.C.R. Costa
Presenter: Antônio Carlos da Rocha Costa

371 **Michelle Denise. Leonhardt,** Doroty: An extension in the architecture of a chatterbot for academic and professional training in the field of network management
Country: BR, *Further authors:* Renato L.S. Dutra, Lisandro Z. Granville, Liane M.R. Tarouco
Presenter: Michelle Denise Leonhardt

394 **Pascal Lando,** Progetto: a Design Method for Distant Collective Project-Based Learning Activities Scenarios Patterns
Country: FR, *Further authors:* Anne Lapujade
Presenter: Pascal Lando

PN 2 (10:30 **Panel Session** Lettere
\- **ICT and Educational Management** chair: 229
12:00) Ian Selwood

Panelists:
Adrie Visscher NL
Arthur Tatnall AU
Ronald Bisaso UG
Greg Baker AU
Dennis Spuck US
proposed by:

481 **Adrie Visscher,** Educational Management
Country: NL, *Further authors:*

WS (10:30 **Workshop 2** **Lettere**
02 - **227**
12:00)

63 **Denric Blaauw,** Developing investigative activities for innovative Science teaching int the e-LAB
Country: ZA

L2 (12:00 - **Lunch** Lettere
13:00) Cillié

R1 (12:30 **Reflexion Session 1** chair: Lettere
\- Brian 230
13:00) Samways

DM 3 (13:00 **Demo Session3**
\-
14:30)

388 **Lorenzo Dalvit,** E-ncedo:
Country: ZA, *Further authors:* Sarah Murray, Alfredo Terzoli, Xiaogeng Zhao
Presenter: Lorenzo Dalvit

P (13:00 **Full Paper Session** chair: Lettere
03.1 - Raul Sidnei 230
14:30) Wazlawick

E-Communities and Learning Theory

204 **Mary Ulicsak,** Designing a computer game to support collaboration and scientific enquiry skills
Country: GB
Presenter: Martin Owen

402 **Jon Hoem,** Personal Publishing and Media Literacy
Country: NU, *Further authors:* Schwebs, Ture
Presenter: Dr. Ture Schwebs

454 **Linda Van der Loo,** Mirandanet
Country: ZA, *Further authors:* Christina Preston, Rupert Wegerif
Presenter: Christina Preston

P (13:00 **Full Paper Session** chair: Cillié
03.2 - Brian 1028
14:30) Samways

LLL: "Learning with Networks"

168 **Kwok- Wing Lai,** OOtagoNet: A videoconferencing network for
Country: NZ, *Further authors:*

389 **Juan M. Santos,** Semantic Brokerage in Standars-Driven e-Learning
Country: ES, *Further authors:* Luis Anido, Martín Llamas
Presenter: Luis Anido Rifon

251 **Rosa Maria Bottino,** On line Learning Networks: Frameworks and Scenarios
Country: IT
Presenter: Rosa Maria Bottino

P 03.3 (13:00 - 14:30) **Full Paper Session**　　　　chair: **Lena Olsson**　　Cillié 3001

HE: ICT is everywhere

108 **Henk Plessius,** Educating ICT in a business context
Country: NL, *Further authors:* Pascal Ravesteijn, Leon de Bruin
Presenter: Henk Plessius

333 **Quintin Gee,** Building a Virtual University for Orthopaedics
Country: GB, *Further authors:* Leslie carr, Gránne Conole, Simon Grange, Wendy Hall, Gary Wills
Presenter: Quintin Gee

413 **Estelle Drysdale,** Adoption of a WebCT learning environment in lecture-based mining engineering education
Country: ZA, *Further authors:* Roger Thompson
Presenter: Estelle Drysdale and Roger Thompson

P 03.4 (13:00 - 14:30) **Full Paper Session**　　　　chair: **Catherine Fulford**　　Wilckocks 201

Information, learning and thinking

379 **Pam Miller,** Factors that influence interaction of high school learners with information in a digitally enhanced environment
Country: ZA, *Further authors:* Johannes Cronje
Presenter: Pam Miller

363 **Maree A. Skillen,** Promoting thinking skills within the secondary classroom using digital media
Country: AU
Presenter: Maree Skillen

359 **Christine Bescherer,** LoDiC – Learning on Demand in Computing
Country: DE
Presenter: Christine Bescherer

P 03.5 (13:00 - 14:30) **Full Paper Session**　　　　chair: **Adrie Visscher**　　Wickocks 323

Teacher Education: theory & practice

334 **Joyce Pittman, Ph.D.,** Technology, Pedagogy and Professional Development
Country: US, *Further authors:* 1
Presenter: Dr. Joyce Pittman

120 **Andrej Blaho,** Object metaphor: From programming to building behaviours
Country: SK, *Further authors:* Ivan Kalas
Presenter: Ivan Kalas

9 **Andrea Bartlett,** Technology Use by Beginning Teachers who Created Electronic Portfolios
Country: US
Presenter: Andrea Bartlett

P 03.6 (13:00 - 14:30) **Full Paper Session**　　　　chair: **Willis King**　　Geology

Broadband, virtual experts and XML

116 **Ian Selwood,** Teacher Use of Broadband Technology
Country: GB, *Further authors:* Peter Twining
Presenter: Ian Selwood

340 **David Reid,** Collaborative IMS-LD
Country: GB, *Further authors:* Mark Anderson Mark Barret-Baxendale
Presenter: David Reid

399 **Paul Nicholson,** Virtual Experts: Who's online?
Country: AU, *Further authors:* Julia Walsh
Presenter: Paul Nicholson

PN 3 (13:00 - 14:30) **Panel Session**
New Ways of Learning through ICT

chair: P.G. Hogenbirk

Lettere 229

Panelists:
Alnaaz Kassam, CA
Mike Kendall, UK
Anne McDougall, AU
Bob Munro, UK
Theo Muntingh, NL
David Passig, IL
proposed by:

468 Pieter Hogenbirk, New ways of learning through ict
Country: NL, Further authors: see panellist
Presenter: Pieter Hogenbirk

WS 03 (13:00 - 14:30) **Workshop 3**

Lettere 227

256 Sigrid Schubert and Johannes Magenheim, Educational Standards of Informatics for International Student Assessment
Country: DE
Presenter: Sigrid Schubert and Johannes Magenheim

T3 (14:30 - 15:00) **Tea**

Lettere Cillié

HP (15:00 - 16:30) **Full Paper Session on History on ICT in Education**

chair: Sindre Rosvik

Wilckocks 323

What can we learn from history?

96 Georges-Louis Baron, ICT, Educational technology and educational instruments - Will what has worked work again elsewhere in the future
Country: FR, Further authors: Bruillard Eric
Presenter: Baron Georges-Louis

141 John Impagliazzo, History: A vehicle for teaching introductory computing courses
Country: US
Presenter: John Impagliazzo

403 Paul Nicholson, eLearning: 40 Years of Evolution?
Country: AU, Further authors: Anne McDougal
Presenter: Paul Nicholson

SP 1.1 (15:00 - 16:00) **Short Paper Session**

chair: Joe Turner

Lettere 230

Collaborative learning

443 Laura Zurita, Towards a conceptual base for evaluation of e-learning platforms in a collaborative context
Country: DK
Presenter: Laura Zurita

483 Diane Mavers, Making Meaning with the Ressources of Animation
Country: GB, Further authors:
Presenter: Diane Mavers

486 Jinyu Zhang, Internetics Scheme: Six Years' Practice and Experience
Country: CN, Further authors:
Presenter: Jinyu Zhang

SP 1.2 (15:00 - 16:00) **Short Paper Session**

chair: Paul Nicholson

Cillié 1028

Higher Education

170 Lawrence Williams, The STAR Project
Country: GB

100 **Glenda Cox**, Staff development workshops for Humanities educators: teaching with technology
Country: ZA, *Further authors:* Tony Carr, Laura Czerniewicz
Presenter: Glenda Cox

20 **Anne Fuller**, Encouraging participation in electronic discussion forums
Country: AU, *Further authors:* Penney McFarlane, Cam Le Lam
Presenter: Anne Fuller, Penney McFarlane

SP 1.3 (15:00 - 16:00) **Short Paper Session**

chair: **Rosa Maria Bottino** — Cillié 3001

Assessment and online environments

82 **Franziska Keller**, Personalization of Online Assessments on the basis of a taxonomy matrix
Country: CH, *Further authors:* Prof. Dr. Helmut Schauer
Presenter: Franziska Keller

231 **Paul McKimmy**, Proving our Outcomes : The Task of Implementing Electronic Portfolio Assessments
Country: US
Presenter: Paul McKimmy

404 **Shaun Nykvist**, Establishing a sense of community within an online learning environment using open source software
Country: AU
Presenter: Shaun Nykvist

SP 1.4 (15:00 - 16:00) **Short Paper Session**

chair: **Gordon Davies** — Wilckocks 201

Interactive learning

427 **QUEK Geok Cheng LAK Yau Hui**, Designing Interactive Resources for Singapore Schools
Country: SG
Presenter: QUEK Geok Cheng

386 **Robert Gajewski**, e-Learning in Polish Universities of Technology
Country: PL
Presenter: Robert Gajewski

69 **Betty Breed**, Effective Learning in Computer Programming: The Role of Learners´ Reflective Thinking
Country: ZA, *Further authors:* J.L. de K. Monteith ; E. Mentz
Presenter: Betty Breed:

WS 04 (15:00 - 16:30) **Workshop 4**

Lettere 227

242 **Pieter Hogenbirk**, Portraying professional development of teachers
Country: NL, *Further authors:* Theo Muntingh
Presenter: Pieter Hogenbirk

DM 4 (16:30 - 18:00) **Demo Session 4**

Lettere 225

418 **Lori Rounds**, Teaching Internet Safety with i-Safe America
Country: US, *Further authors:* Teri Schroeder (President and Founder, i-SAFE America)
Presenter: Lori Rounds, Teri Schroeder

P 04.1 (16:30 - 18:00) **Full Paper Session**

chair: **Marta Turcsanyi-Szabo** — Lettere 230

E-Inclusion

30 **Birgitte Sorensen**, Children's informal learning forms in the school context
Country: DK, *Further authors:* Oluf Danielsen
Presenter: Birgitte Holm Sørensen, Oluf Danielsen, Janni Nielsen

180 **Lisa Seymour**, The influence of demographic variables on web-based learning tool perceptions and adoption intent
Country: ZA, *Further authors:* Irwin Brown
Presenter: Lisa Seymour

445 Hermann Puhlmann, Essential ingredients of literacy in informatics
Country: DE, *Further authors:* Ludger Humbert
Presenter: Hermann Puhlmann

P 04.2 (16:30 - 18:00) **Full Paper Session**

chair: Ian Selwood

Cillié 1028

LLL: ICT and the Learner

347 Luis Anido, Integration of ICT into the Post-graduate Studies in a Conventional University
Country: ES, *Further authors:* Diego Conde, Juan Aguiar, Antón Fernández, Emilio González
Presenter: Luis Anido Rifon

67 Duan van der Westhuizen, The student at risk in online learning: The case for appropriate research
Country: ZA, *Further authors:* Elizabeth Henning
Presenter: Duan vd Westhuizen

439 Bent B. Andresen, Best Practice in Professional Development
Country: DK, *Further authors:* Brian Knudsen
Presenter: Bent B. Andresen

P 04.3 (16:30 - 18:00) **Full Paper Session**

chair: Alain Senteni

Cillié 3001

HE: creativity and learning

1 Ada Wai Wing MA, Fostering Creativity in a CSCL Environment
Country: HK
Presenter: Ada Wai Wing MA

107 Héléne Godinet, Scenario for Collaborative Learning in a Digtal Campus : What Works ?
Country: FR
Presenter: Helene Godinet

447 Nils Ole Nilsen, Digital Portfolios - a Method for Learning and Assessment in Higher Education
Country: NO
Presenter: Nils Ole Nilsen

P 04.4 (16:30 - 18:00) **Full Paper Session**

chair: Brian Samways

Wilckocks 201

Teaching and Learning with ICT

205 Mary Webb, Teachers' pedagogical decision making and practices in relation to the use of ICT for learning and teaching
Country: GB, *Further authors:* Margaret Cox
Presenter: Mary Webb and Margaret Cox

207 Anders Tveit, The integration of economic and human resource aspects by using computer bases tools
Country: NO, *Further authors:* Emanuel Blattner and Stig Ytterstad
Presenter: Anders Tveit, Emanuel Blattner and Stig Ytterstad

86 Gail Weldon, Integrating Education for Human Rights and Democracy with ICT
Country: ZA, *Further authors:*

P 04.5 (16:30 - 18:00) **Full Paper Session**

chair: Asbjoern Rolstadaas

Wilckocks 323

Case studies in using ICT in Teacher Education

305 Keth Vallis, An Immersion Model for Teacher Training in the Integration of Technology: The Impact on Teaching and Learning
Country: AU, *Further authors:* Dr. Rod Kefford, Steven Steele, Peter Williamson
Presenter: Keith Vallis

411 Nick Reynolds, A Constructivist Learning Environment in Undergraduate IT
Country: AU
Presenter: Nick Reynolds

99 Giovanni Fulantelli, A model to train teachers on the educational value of hypertexts
Country: IT
Presenter: Giovanni Fulantelli

P 04.6 (16:30 - 18:00) **Full Paper Session** chair: **Erling Schmidt** Geology

Digital Learning Resources

434 **Mark Pullen**, Presenting an Online Graduate Computer Science Program at Low Cost Using Open-Source Software
Country: US

175 **Lillian Cassel**, A Digital Library for Cyberlearning in the Sciences (originally: The U.S. National Science Digital Library)
Country: US, *Further authors:* Lee Zia
Presenter: Lillian N. Cassel

PN 4 (16:30 - 18:00) **Panel Session**
What works and what does not work? chair: **Raymond Morel** Lettere 229

Panelists:
Niki Davis UK
Andrea Karpati HU
Christina Preston, UK
proposed by:

219 **Niki Davis**, What works and what does not?
Country: US, *Further authors:* Andrea Karpati
Presenter: Niki Davis

GD (18:30 - 23:00) **Gala Dinner** Outside Lettere

Sponsored by Mecer South Africa
Dress: Jacket & Tie / Traditional
Busses will pick up delegates from the front of Lettere Building at 18:30

Wednesday, July 6th 2005

IC D (08:30 - 10:00) **ICOOL DEMO** Lettere 226

IC 1 (08:30 - 10:00) **ICOOL 1** Lettere 223

IC 2 (08:30 - 10:00) **ICOOL 2** Lettere 225

P 05.1 (08:30 - 10:00) **Full Paper Session** chair: **John Hughes** Lettere 230

Online Learning Environments

70 **Elizabeth Stacey**, Problem -based learning in an online environment.
Country: AU
Presenter: Dr Elizabeth Stacey

393 **Giuseppe Callegarin**, Distributed School Lab Experiments Through Web Services
Country: IT
Presenter: Giuseppe Callegarin

407 **John Pearson**, Evaluating E-learning Environments using the Online Learning Environment Survey
Country: HK
Presenter: John Pearson

P 05.2 (08:30 - 10:00) **Full Paper Session**

chair: **Adrie Visscher** — Cillié 1028

Lifelong Learning - the way ahead

263 **Sylvia Martinez**, Bridging the Digital Divide with Peer-Assisted ICT Instruction
Country: US
Presenter: Sylvia Martinez

237 **Cathleen Greiner**, A Changing Paradigm of Adult Learning: Accessible, Accelerated, Adaptable, Applicable
Country: US, *Further authors:* Serdyukova, N., Subbotin, I. and Serdyukov, P.
Presenter: Peter Serdyukov

484 **Brian Samways**, Concluding Discussion for Lifelong Learning Stream
Country: GB, *Further authors:*

P 05.3 (08:30 - 10:00) **Full Paper Session**

chair: **Arthur Tatnall** — Cillié 3001

HE: professional training

154 **Karin Levinsen**, Qualifying on-line teachers
Country: DK
Presenter: Rikke Orngreen

173 **Leng-Seow Tan**, Application of a web-based interactive homework system for a course in electrical engineering
Country: SG, *Further authors:* W. B. Tan, W. M. Tay
Presenter: Leng-Seow Tan

469 **M. Schwesig**, An E-learning experiment in manufacturing strategy
Country: DE, *Further authors:* Rolstadas, A. and Thoben K.-D.
Presenter: Asbjorn Rolstadas

P 05.4 (08:30 - 10:00) **Full Paper Session**

chair: **Torbjoerg Breivik** — Wilckcocks 201

Technology-enhanced learning for the future

97 **Peter de Lisle**, How has Intel Teach to the Future worked in South Africa?:
Country: ZA
Presenter: Peter de Lisle

138 **John Belcher**, Technology enabled active learning at MIT
Country: US, *Further authors:* Dori, Y. J., Dourmashkin, P., Liao, S-B.
Presenter: John Belcher

246 **Richard Ager**, The Digital Backdrop - using ICT to enhance whole class science teaching
Country: GB
Presenter: Richard Ager

P 05.5 (08:30 - 10:00) **Full Paper Session**

chair: **Anna Grabowska** — Wilckcoks 323

National and local approaches

59 **David Whyley**, Placing the learner at the heart of the sysytem - A city wide approach to the personalised learning agenda.
Country: GB, *Further authors:* Tim Westwood
Presenter: David Whyley and Tim Westwood

451 **John Scipio**, The KHANYA Methodology for ICT Implementation in Schools
Country: ZA

249 **Robert Munro**, Impact of ICT Initiatives in Scottish Schools
Country: GB

PN 5 (08:30 **Panel Session**   chair: Lettere
-       **History: A Vehicle for Teaching Introductory Computing**   Jan Wibe   229
10:00)

Panelists:
John Impagliazzo US
Georges-Louis Baron F
Paul Nicholson AU
proposed by:

475   **John Impagliazzo**, Using history to teach computing
      Country: US
      Presenter: John Impagliazzo

WS 05 (08:30 **Workshop 5**   Lettere
-
10:00)   227

460   **Leah Keino**, Electronic learning portfolios
      Country: US, *Further authors:* Niki Davis
      Presenter: Leah

C3   (10:00 -   **Coffee**   Lettere
       10:30)   Cillié

IC D (10:30 **ICOOL DEMO**   Lettere
-
12:00)   226

IC 1 (10:30 **ICOOL 1**   Lettere
-
12:00)   223

IC 2 (10:30 **ICOOL 2**   Lettere
-
12:00)   225

P 06.1 (10:30 **Full Paper Session**   chair: Lettere
-   Rosa Maria   230
12:00)   Bottino

Research and Formative Assessment

464   **Margaret Cox**, Effects of ICT: Do we know what we should know?
      Country: GB, *Further authors:* Gail Marshall
      Presenter: Margaret Cox and Gail Marshall

127   **Jeanne Marie Ho**, Informating Formative Assessment with Technology
      Country: SG, *Further authors:* Peh, James and Seah, Whye Choo
      Presenter: Jeanne Ho

183   **Lori Breslow**, Lessons learned: Formative assessments of EdTech initiatives at the Massachusetts
      Institute of Technology, 2000 - 2004
      Country: US
      Presenter: Lori Breslow

P 06.2 (10:30 **Full Paper Session**   chair: Cillié
-   Johannes   1028
12:00)   Magenheim

Computer Science and the setting of standards

37   **Charmain Cilliers**, The Impact of an Iconic Programming Notation on Low - Ability Introductory
      Programming Students
      Country: ZA, *Further authors:* Andre Calitz; Jean Greyling
      Presenter: Jean Greyling

355   **Agostino Cortesi**, The Quality Certification Mark for Italian University Degree Programs in
      Computer Science
      Country: IT, *Further authors:* Enrico Nardelli
      Presenter: Agostino Cortesi

376   **Kechil Kirkham**, The value of teaching using a live ERP System with resource constraints
      Country: ZA, *Further authors:* Dr. Lisa Seymour
      Presenter: Kechil Kirkham

P 06.3 (10:30 - 12:00) **Full Paper Session**

chair: Ingeborg Solvberg — Cillié 3001

HE: on-line learning

208 **Michael Hammond**, Using on- line discussion to support teaching and learning: opportunities and challenges
Country: GB, *Further authors:* Mongkolchai Wiriyapinit
Presenter: Michael Hammond

238 **Peter Smith**, Solving problems collaboratively online: Experiences of Australian and Chinese Heritage university students
Country: AU, *Further authors:* S.N. Smith, J. Coldwell, K.L. Murphy
Presenter: Peter J Smith, Swee N Smith

384 **Jane Nash**, To cross the digital divide, first leap the language barrier
Country: ZA, *Further authors:* Mullins, C., Speight, H. and Van Heerden, M.
Presenter: Jane Nash

P 06.4 (10:30 - 12:00) **Full Paper Session**

chair: Gordon Davies — Wilckocks 201

Technology and Learning Activities

12 **Andrew Fluck**, Authentication and e-learning
Country: AU
Presenter: Dr. Andrew E. Fluck

387 **Manuel Caeiro-Rodríguez**, Improving the Modelling of Heterogeneous Learning Activities
Country: ES, *Further authors:* Luis Anido-Rifón, Martín Llamas-Nistal
Presenter: Luis Anido-Rifón

139 **John Cuthell**, Seeing the meaning. The impact of interactive whiteboards on teaching and learning
Country: GB
Presenter: John Cuthell

P 06.5 (10:30 - 12:00) **Full Paper Session**

chair: Leif Hokstad — Wilckocks 323

National success stories

277 **Torbjoerg Breivik**, Action Plan for Norwegioan Language and ICT and the Norwegian Human Language Technology (HLT) Resource Collection
Country: NO
Presenter: Torbjoerg Breivik

166 **Kobus van Wyk**, Khanya - a success story of implemnting ICT in a developing country
Country: ZA
Presenter: Kobus van Wyk

332 **Arthur Tatnall**, The Formation and Role of State Centres of Computer Education in Australia in the 1980s
Country: AU
Presenter: Arthur Tatnall

PN 6 (10:30 - 12:00) **Panel Session**
Political/social importance of Lifelong Learning with ICT

chair: Brian Samways — Lettere 229

Panelists:
Mike Kendall UK
Tom van Weert NL
Peter Williamson AU
Sylvia Martinez US
Jianwei Zhang CN
proposed by:

357 **Mike Kendall**, Lifelong Learning Panel
Country: GB, *Further authors:* Tom van Weert
Presenter: Tom van Weert

WS 06	(10:30 - 12:00)	**Workshop 6**		Lettere 227

World E-citizens

457 Christina Preston, World E-citizens
Country: GB

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<tr><td>L3</td><td>(12:00 - 13:00)</td><td>Lunch</td><td></td><td>Lettere Cillié</td></tr>
<tr><td>R2</td><td>(12:30 - 13:00)</td><td>Reflexion Session 2</td><td>chair: Brian Samways</td><td>Lettere 230</td></tr>
<tr><td>IC D</td><td>(13:00 - 14:30)</td><td>ICOOL DEMO</td><td></td><td>Lettere 230</td></tr>
<tr><td>IC 1</td><td>(13:00 - 14:30)</td><td>ICOOL 1</td><td></td><td>Lettere 223</td></tr>
<tr><td>IC 2</td><td>(13:00 - 14:30)</td><td>ICOOL DEMO</td><td></td><td>Lettere 225</td></tr>
<tr><td>P 07.1</td><td>(13:00 - 14:30)</td><td>Full Paper Session</td><td>chair: Niki Davis</td><td>Lettere 230</td></tr>
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Tools for tutoring

193 Marianne Georgesen, Flexible teaching and learning
Country: DK
Presenter: Marianne Georgesen

248 Marie-Noelle Bessagnet & Judith Israel , Helping to Network (Groups of) Learners Using a Collaborative Learning System
Country: US, *Further authors:* Robert Aiken
Presenter: Marie-Noelle Bessagnet

383 Cédric Buche, Intelligent Tutoring system for procedural and collaborative training
Country: FR, *Further authors:* Le Gal, Querrec
Presenter: Ronan Querrec

P 07.2	(13:00 - 14:30)	**Full Paper Session**	chair: Doug Brown	Cillié 1028

Informatics, computer toys and drop-out rate

110 Hermann Puhlmann, Exploring Test Items in the PISA-style for Informatics
Country: DE
Presenter: Hermann Puhlmann

197 Mark Barrett- Baxendale, Adaptive individualised IMS Learning Design player
Country: GB, *Further authors:* David Reid, Paul Hazlewood, Mark Anderson
Presenter: Mark Barrett-Baxendale (subject to confirmation)

159 Keith Gibson, Dealing with the drop-out rate
Country: ZA
Presenter: Keith Gibson

P 07.3	(13:00 - 14:30)	**Full Paper Session**	chair: Gerald Futschek	Cillié 3001

Disseminating ICT skills in Higher Education

306 Oduronke Eyitayo, The Existing and Coming Generation of Computer Proficient Students: Implications for Teaching ICT Literacy at Higheer Institutions in Botswana
Country: NG, *Further authors:* Eyitayo, Adekunle.O
Presenter: Oduronke

311 Catherine Fulford, Diffusion of Innovations:
Country: US, *Further authors:* Rachel Rivers, Ariana Eichelberger, Curtis Ho, Gary Theal
Presenter: Catherine P. Fulford, Ph.D.

Time	Fri, 1st	Sat, 2nd	Sun, 3rd	Mon, 4th	Tue, 5th	Wed, 6th	Thu, 7th
08:00				Registration			
08:30							ICOOL WSIS 1
09:00		TC 3 Meeting	TC 3 Meeting	WG 3.1-1 / WG 3.3-1 / WG 3.6-1	Paper 1 (6x) / Demo 1 / Workshop 1 / Panel 1	Paper 5 (5x) / Workshop 5 / Panel 5	Paper 9 5x / Workshop 9 / Panel 9
10:00				Coffee	Coffee	Coffee	Coffee
10:30				WG 3.1-2 / WG 3.3-2 / WG 3.6-2	Paper 2 (6x) / Demo 2 / Workshop 2 / Panel 2	Paper 6 (5x) / Workshop 6 / Panel 6	Paper 10 5x / Workshop 10 / Panel 10 — ICOOL WSIS 2
12:00				Lunch — WG 3.6 AGM	Lunch	Lunch	Closing Session
12:30			IPC				
13:00				Opening Session	Reflexion	Reflexion	
13:30			WG 3.5		Paper 3 (6x) / Demo 3 / Workshop 3 / Panel 3	Paper 7 (5x) / Workshop 7 / Panel 7	Lunch
14:00			WG 3.4				
14:30		TC 3 Meeting	Tea	Tea	Tea	Tea	
15:00	TC3 Officers Meeting		Registration	Keynote Session	Short Paper 1 (4x) / Paper H / Workshop 4	Short Paper 2 (4x) / Workshop 8 / Panel 11.1	WG 3.3 AGM
16:00			WG 3.2 / WG 3.7	Welcome Cocktail	Paper 4 (6x) / Demo 4 / Panel 4	Paper 8 (5x) / Panel 8 / Poster Session / Panel 11.2	
16:30							
17:30			IFIP TC3 Task Force on LLL				
18:00					Gala Dinner		
19:00							
19:30							

Registration

Participants for the Round Table & Workshop can register on the WCCE 2005 Website for the full WCCE conference or just the one day. Full details are on the web site re: accommodation and airport transport if required.

<u>Fees</u>

Full WCCE Conference Rand 4100 Approx €512

One day fee including
UNITAR Round Table
& Workshop   Rand 1400 Approx €175

Registration can be made on-line at:
http://www.wcce2005.org.za

WCCE 2005 Secretariat

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UNITAR BILBAO2005 ifip

In the context of the

WCCE Cape Town 2005

World Conference on Computers in Education
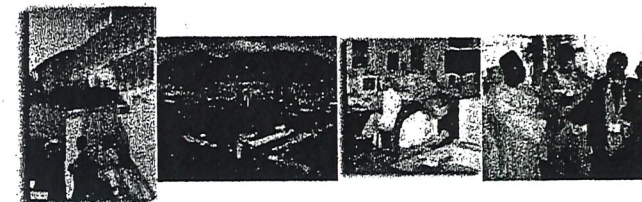
**University of Stellenbosch
Cape Town, South Africa**

6 July 2005
15:00—18:00

ROUND TABLE
&
WORKING SESSION

MOBILIZING EXPERTISE AND RESOURCES FOR DIGITAL SOLIDARITY IN EDUCATION

CONTRIBUTION TO THE BILBAO SUMMIT

Information is a strategic resource for local policy makers, who have become key players in bringing about sustainable development and meeting the increasing needs of their citizens. The effective use of knowledge through information and communications technology (ICT) can make a powerful positive contribution to accelerate community development and improve people's lives. Local authorities are at the forefront of implementation of ICT as a catalyst in the life long process of education and learning for the local population.

World Summit of Cities and Local Authorities

Cognizant of their leadership role in the Information Society , cities and local authorities worldwide have mobilized to make their voices heard and channeled their efforts in a movement which culminated with the First World Summit of Cities and Local Authorities on the Information Society, held in Lyon in December 2003. The results of the Lyon Summit were included in the World Summit on the Information Society (WSIS), held in Geneva later that same month. The second step in this process for local authorities is the Second World Summit of Cities and Local Authorities on the Information Society to be held in Bilbao (Bilbao Summit) November 9-11, 2005. Preparations for the Bilbao Summit are twofold: 1) strong political mobilization of key decision makers and 2) organization of thematic and regional conferences which could provide the strategic guidance around which local authorities intend to play their role in the Information Society and develop e-services for their population. The Bilbao Summit will be a platform for setting up public-private partnerships to catalyze development and access to ICTs for local communities. The result of the conference will be a Declaration and Plan of Action of Local Authorities which will be presented at the Second WSIS to be held in Tunis.

The Stellenbosch Conference: a major step on the way to the Bilbao Summit

The IFIP World Congress on Computers in Education (WCCE 2005) 4-7 July at the University of Stellenbosch is a major gathering, bringing together people interested in learning about the potential for ICT in education – academics and researchers, politicians and policy makers, businesses and the private sector, NGOs and international organizations. One half day will be dedicated to local authorities. The outcome of the one day meeting will include proposals for public-private partnerships, as well as recommendations will serve as a basis for the Bilbao Summit Plan of Action.

♦ Local decision makers, representatives from local communities and authorities

♦ Professionals in education and e-education, academics

♦ Researchers on knowledge management and researchers on new training methodologies

♦ Private sector players in the education field

There is a need for a new framework to improve the process and efficiency of education and training activities in line with the new possibilities of the Information Society. The Round Table on **Mobilizing Expertise and Resources for Digital Solidarity in Education** will address a new framework for partnership and identify bottlenecks, as well as recommend strategic actions to be taken in order to scale up good practices and efficiently mobilize all potential expertise and resources.

The panel will specifically address the following:
1. The role and responsibilities of cities, local government and states in policy making, development, and implementation of education programmes
2. The role and recommendations of experts on an appropriate model of training and education in the Information Society
3. Strategic actions and implementation modalities to be recommended
4. Building public-private partnerships to enhance efficiency and broaden the scope of existing programmes

15:00-16:30   ROUND TABLE

Introduction
♦ Bernard Cornu, IFIP
♦ Amadou Top, Vice President , Digital Solidarity Fund
♦ Michael Oliver Sutcliffe, Secretary General of the City of Durban

Panel participants will be representatives from:
♦ Major local authorities and national governments
♦ NEPAD network
♦ G3 cities (South Africa, Brazil, India)
♦ IFIP
♦ Private companies
♦ Digital Solidarity Agency
♦ Digital Solidarity Fund
♦ World Commission of Cities on Decentralized Cooperation
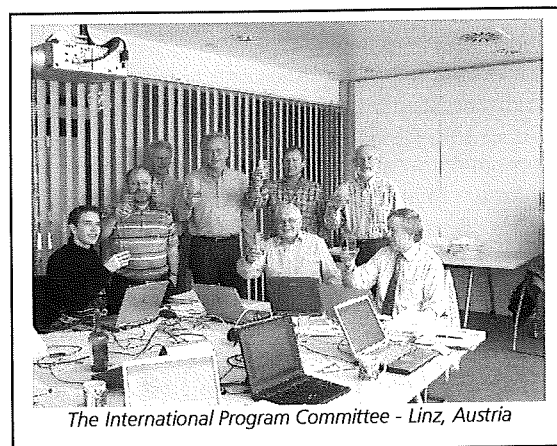
Break

16:40-18:00   INTERNAL WORKING SESSION

WCCE 2005

DAILY

Welcome to the friendliest city in SA

Yesterday afternoon's plenary session extended a warm welcome to over 600 delegates, speakers and exhibitors attending the WCCE 2005 Conference and Exhibition, representing over 40 countries from around the world. Deputy Minister of Education, Mr Enver Surty gave a humorous, yet challenging speech on the importance ICT plays in realising the goals and challenges of our educational, social, economic and political development. He reiterated how the responsibility in preparing our youth and society rests heavily on our shoulders. Dr Joseph Gnu, Acting Director for UNESCO International Institute for Capacity Building in Africa (UNESCO IICBA) agreed that the use of ICTs in education is a major challenge worldwide, but one which demands urgent attention particularly in Africa. UNESCO has been deeply involved in assisting African countries in addressing this challenge. The question is – what can YOU do? The answer? Over the next couple of days listen, observe, share knowledge and gain an understanding of "What Works".

The International Program Committee - Linz, Austria

Streams by topic

Still confused by which session to attend over the next few days? Here is a brief overview allocated by topic.

A. Learning Theory and Research
Stream 1 (24 papers)
3.1; 4.1; 5.1; 6.1; 7.1; 8.1; 9.1; 10.1
B. Teacher Education (21 papers)
Stream 1: 1.1; 2.1
Stream 5: 3.5; 4.5
Stream 4: 8.4; 9.4; 10.4
C. Management & Policies
Stream 5 (24 papers)
1.5; 2.5; 5.5; 6.5; 7.5; 8.5; 9.5; 10.5
D. Methods & Pedagogy
Stream 4 (21 papers)
1.4; 2.4; 3.4; 4.4; 4.4; 5.4; 6.4; 7.4
E. Lifelong Learning
Stream 2 (15 papers)
F. Higher Education
Stream 3 (24 papers)
1.3; 2.3; 3.3; 4.3; 5.3; 6.3; 7.3; 8.3
G. Informatics Education
Stream 2 (15 papers)
6.2; 7.2; 8.2; 9.2; 10.2
H. Software & Hardware
Stream 6 (12 papers)
1.6; 2.6; 3.6; 4.6
I. Professional and Vocational
Stream 3 (6 papers)
9.3; 10.3
J. History
Stream 3 (3 papers)
HP

The Stellenbosch Declaration – a WCCE 2005 Initiative

As well as providing a platform for sharing experiences and knowledge, we would like this conference to have significant outputs to a wider, global audience. Enter the Stellenbosch Declaration. The Declaration will be a three page document, addressing the principles, ideas, trends and recommendations considered essential for the future of ICT in education. We are asking for contributions from the Session Chairs, speakers and delegates.

The final Declaration will be presented and discussed at the Plenary Closing on Thursday, which will be attended by the IFIP President.

The Declaration will then be presented at the World Summit on the Information Society, which will be held in Tunis in November 2005.

Chairpeople to submit three ideas or recommendations from your sessions. **Speakers** to submit one idea or recommendation from your paper. **Delegates** may also make individual contributions.

Each idea must be a maximum of three lines and all contributions must please be submitted using the form provided, which can be collected at the Registration Desk.

Southern Hemisphere Connection

IFIP's Working Group on ICT in university education (WG3.2) now has a 'southern hemisphere' look. It is perhaps appropriate that it is in Stellenbosch, South Africa, that WG Chair, John Hughes from Australia and Vice Chair, Raul Wazlawick from Brazil worked with other members from Europe and the USA to prepare a programme of activities over the next three years.

While we might be in South Africa, the issues needing to be resolved are global and pervasive. What should be taught to computing students to make them effective professionals of the future?

How can information technology be used to make learning more effective across the whole university curriculum? In this global village, increasingly virtual, how can we learn from each other?
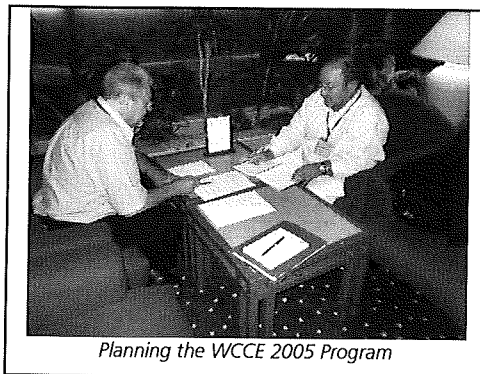
The program of activities therefore will look at international curricula in informatics and software engineering, reviewing progress in the major initiatives, identifying 'best practice' around the world, and identifying what makes an IT professional.

If you would like to submit something for tomorrow's newsletter, please contact Kirsten Moller via the Registration Desk.

8th IFIP WORLD CONFERENCE on COMPUTERS in EDUCATION

What, in the World, is Distance Education?

WG 3.6 held a seminar and their Annual General Meeting yesterday. Elizabeth Stacey and Gordon Davies invited 9 speakers from 7 countries to join the discussion on what is happening in distance education around the world. Many similarities were found between countries; students still preferred face-to-face classes to online, and blended learning combining on and off campus classes were prevalent in all countries.

Planning the WCCE 2005 Program

The final speakers (Mike Chiles – W.Cape Education Dept, and Kim Tucker – CSIR) gave a fascinating report on Africa, describing the conditions in South Africa and the challenges faced to provide distance education solutions to children affected by HIV/Aids, or in rural communities with limited resources and access to teachers.

Lifelong Learning now a SIG

At its TC3 meeting last weekend, the members approved the creation of its first Special Interest Group (SIG). It will be concerned with the role of both Informatics and the resulting Information and Communication Technologies (ICT) that enable each citizen and worker to adapt to the knowledge-based society and actively participate in all spheres of social and economic life.

The new SIG on Lifelong Learning will look particularly at the interaction between the different ways of acquiring and updating all kinds of abilities, interests, knowledge and qualifications.

If you wish to contribute to the new SIG on Lifelong Learning, or can recommend a colleague who is a leader or expert in their area, please visit our TC3 website at wwwedu.ge.ch/cptic/prospective/projets/ifip or contact SIG 3.8 Chair, Brian Samways.

Just some of the challenges facing the use of ICTs in Education in Africa

- *How do we develop a curriculum and learning architecture acceptable to our people?*
- *How can we develop and implement effective, flexible, affordable and sustainable delivery methodologies?*
- *What ICT networks exist in our countries for educational purposes?*
- *What are the costs, management and utilization implications of bandwidth used in our educational systems?*
- *What of the challenge of teledensity in Africa?*
- *What must we do to increase the number of computers in Africa?*
- *How do we redress the regional disparities in the use of computers?*

Dr. Joseph N. Ngu, UNESCO

Lost but not Found

Have you found a lunch ticket? One delegate went to collect his lunch yesterday but had lost his ticket. Of course he was told "No ticket – no lunch". The unfortunate delegate was none other than our Conference Chair, Professor Bernard Cornu!

IFIP / WCCE – A History

1970: Amsterdam, Netherlands
1975: Marseille, France
1980: Lausanne, Switzerland
1985: Norfolk, USA
1990: Sydney, Australia
1993: Teleteaching, Norway TC3
1995: Birmingham, UK
2001: Copenhagen, Denmark
2005: Cape Town, South Africa
2009: Brazil
Looking forward to seeing you there!

Gala Dinner SOLD OUT
(please remember your ticket tonight)

Quotes of the day

'School leavers have been exposed to more information than their grandparents were in a lifetime" – *Deputy Minister of Education, Mr Enver Surty*

"With more than 200 teachers sponsored to attend, hopefully they will be motivated to use computers in the classroom, thereby improving the standard of education in South Africa" - *Vice President, IFIP, Prof Basie von Solms*

"I am excited to learn from people from all over the world and hopefully take back some solutions which might address the many challenges facing both learners and teachers" – *Ministry of Education, Botswana, Ragton Mazhami*

Decision Making Strategies
- ▷ Use the results of research
- ▷ Use a systemic approach
- ▷ Involve all stakeholders
- ▷ Promote regional and international cooperation
- ▷ Promote trust and security in the use of ICT

Teachers
- ▷ The new role and mission of teachers in the knowledge society
- ▷ Select good teachers and make the teaching profession attractive
"Technology matters, good teachers matter more"
- ▷ Empower teachers with teaching skills and ICT
- ▷ Teacher professional development

Meet the IFIP President

Dr Klaus Brunnstein

IFIP President, Mr Klaus Brunnstein arrived yesterday in time to attend and participate in the afternoon sessions.

As Professor for Applications of Informatics, Hamburg University and an active member of IFIP since 1976, it is no surprise that he was elected President in 2002.

In 1976 he founded TC9 "Relationship between Computers and Society". Interestingly, Dr Brunnstein is an active educator with a vested interest in Data Protection and yet has never worked on TC 3 (Education) or TC 11 (Security). "TC3 is one of the finest TCs as it attracts young people and teachers, and has a multi-faceted forward vision. I feel it is one of the essential TCs and it is wonderful to be working with International Partners such as UNESCO and UNITAR."

Even with his busy schedule as President of IFIP, Dr Brunnstein says it is an honour to be invited to speak at this event of such significance. Dr Brunnstein will be addressing the conference on the role of education in the information society at the closing session today at 12:00 in Lettere 230.

The Online Learning environment:
A useful tool, some interesting research and a fascinating case-study .

John Pearson from the University of Hong Kong, together with Sue Trinidad, has developed a useful tool for evaluating the use of the online environment for teaching and learning. Students can respond to questions about ACTUAL practice and also complete their PREFERRED response. Discrepancies between these two indicators give teachers and institutions valuable data about the success of online learning.

Michael Hammond from the University of Warwick, UK, examined the literature about online learning and highlighted points such as the uncritical acceptance of a social constructivist model underlying online learning. His case study research found time constraints of business students affected their ability to take a deep learning approach in group work. They maximise their learning in minimal time with a focus on assessment tasks. He advises cautious optimism about teaching and learning online.

Peter Smith, (working with other colleagues) reported their study comparing two groups of undergraduate third-year computer science students on campus. One comprising Australian first language English speakers and the other students of Chinese Heritage Culture (CHC) whose first language is Chinese but who were competent in English. Studying computer ethics in fully online student-facilitated small groups was found to be highly unpopular with all the students. The Australian students saw this as an issue of time taken and inefficiency with little challenging of ideas as it was too time-consuming to do so.

The CHC students found the Australian straight-forward style of posting immediately about the task confronting and intimidating and found it hard to join in the discussions. They felt cheated and marginalised and preferred face-to-face groups and more teacher-facilitation. Their messages were as frequent as the Australian students, but were more organisational and less intellectual in content with half the number of words written. Interestingly they socialised as much online as the Australians.

Dr. Elizabeth Stacey, Deakin University, Australia

www.wcce2005.org.za

WCCE 2005

WCCE Daily produced by Kirsten Moller
with many thanks to Elizabeth Stacey
for all her help

DAILY

Thursday 7 July 2005

Farewell, Totsiens, Hambani kakuhle, Hambakahle

(Goodbye in four of South Africa's eleven official languages – English, Afrikaans, Xhosa and Zulu)

Today we reach the end of the 8th IFIP WCCE. We learned a lot, experienced a lot, increased our networking and developed our "collective intelligence" together. Holding the WCCE in Africa, IFIP has been humanly and intellectually enriched. But the closing of WCCE is not an end, it is just the beginning! We will start new projects, applying what we learnt in Stellenbosch. We will continue networking our networks together. And the Stellenbosch Declaration will forward ideas and recommendations to decision and policy makers all around the world. I hope you enjoyed the WCCE and your stay in South Africa. I wish you a safe return home, and we all look forward to meeting each other again at future IFIP events!

Prof. Bernard Cornu, Chairperson, International Program Committee

Prof Cornu at the Gala Dinner

The Stellenbosch Declaration – a draft framework

Your thoughts and recommendations in brief – to be discussed and finalised at the Closing Session.

Digital Solidarity

▷ Infrastructure for global collaboration to share knowledge, experience and perspectives

▷ Equal and open access to digital information, content and media for all

▷ Approach to networks for digital communication and support to establish interaction and collaboration among students and teachers worldwide

▷ A Digital Solidarity Act - all stakeholders agree on the importance of fighting the digital divide and the principles for doing this

Learner and Life Long Learning

▷ Academic learning

▷ Professional, vocational learning

▷ Citizenship and social responsibility learning

▷ Non-formal learning
   o Through tradition and culture
   o Through social and cultural environment

Networking

▷ Network the Knowledge Society globally and locally and that it has a consequence on policies and on the way educational systems are organised

▷ Enable people to be part of networks in each community, country and internationally. All countries should take part in international educational projects

▷ Encourage and develop partnerships and involve all stakeholders

▷ Facilitate collaborative work, exchange, cooperation and new learning environments

▷ e-Learning as a way for Education for All

Research
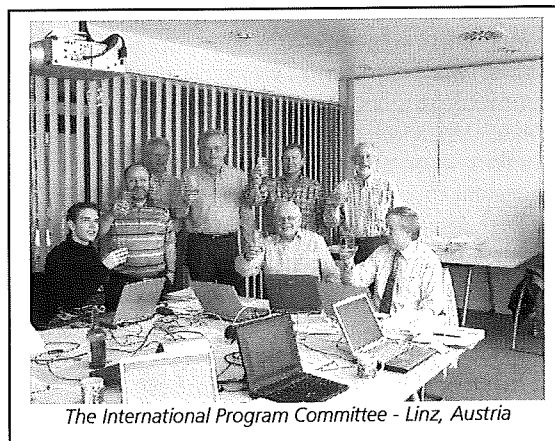
▷ Take into account all cultures in research, not only western

▷ Research results should be used by decision-makers

▷ Look at results critically, in terms of possibility of generalizing and different cultures

▷ Ensure public / private research is balanced and complementary

▷ Establish a mutual understanding between researchers and practitioners

▷ Conduct research exploring different learning settings, such as informal learning

Welcome to the friendliest city in SA

Yesterday afternoon's plenary session extended a warm welcome to over 600 delegates, speakers and exhibitors attending the WCCE 2005 Conference and Exhibition, representing over 40 countries from around the world. Deputy Minister of Education, Mr Enver Surty gave a humorous, yet challenging speech on the importance ICT plays in realising the goals and challenges of our educational, social, economic and political development. He reiterated how the responsibility in preparing our youth and society rests heavily on our shoulders. Dr Joseph Gnu, Acting Director for UNESCO International Institute for Capacity Building in Africa (UNESCO IICBA) agreed that the use of ICTs in education is a major challenge worldwide, but one which demands urgent attention particularly in Africa. UNESCO has been deeply involved in assisting African countries in addressing this challenge. The question is – what can YOU do? The answer? Over the next couple of days listen, observe, share knowledge and gain an understanding of "What Works".

The International Program Committee - Linz, Austria

Streams by topic

Still confused by which session to attend over the next few days? Here is a brief overview allocated by topic.

A. Learning Theory and Research
Stream 1 (24 papers)
3.1; 4.1; 5.1; 6.1; 7.1; 8.1; 9.1; 10.1
B. Teacher Education (21 papers)
Stream 1: 1.1; 2.1
Stream 5: 3.5; 4.5
Stream 4: 8.4; 9.4; 10.4
C. Management & Policies
Stream 5 (24 papers)
1.5; 2.5; 5.5; 6.5; 7.5; 8.5; 9.5; 10.5
D. Methods & Pedagogy
Stream 4 (21 papers)
1.4; 2.4; 3.4; 4.4; 4.4; 5.4; 6.4; 7.4
E. Lifelong Learning
Stream 2 (15 papers)
F. Higher Education
Stream 3 (24 papers)
1.3; 2.3; 3.3; 4.3; 5.3; 6.3; 7.3; 8.3
G. Informatics Education
Stream 2 (15 papers)
6.2; 7.2; 8.2; 9.2; 10.2
H. Software & Hardware
Stream 6 (12 papers)
1.6; 2.6; 3.6; 4.6
I. Professional and Vocational
Stream 3 (6 papers)
9.3; 10.3
J. History
Stream 3 (3 papers)
HP

The Stellenbosch Declaration – a WCCE 2005 Initiative

As well as providing a platform for sharing experiences and knowledge, we would like this conference to have significant outputs to a wider, global audience. Enter the Stellenbosch Declaration. The Declaration will be a three page document, addressing the principles, ideas, trends and recommendations considered essential for the future of ICT in education. We are asking for contributions from the Session Chairs, speakers and delegates.

The final Declaration will be presented and discussed at the Plenary Closing on Thursday, which will be attended by the IFIP President.

The Declaration will then be presented at the World Summit on the Information Society, which will be held in Tunis in November 2005.

Chairpeople to submit three ideas or recommendations from your sessions.
Speakers to submit one idea or recommendation from your paper.
Delegates may also make individual contributions.

Each idea must be a maximum of three lines and all contributions must please be submitted using the form provided, which can be collected at the Registration Desk.

Southern Hemisphere Connection

IFIP's Working Group on ICT in university education (WG3.2) now has a 'southern hemisphere' look. It is perhaps appropriate that it is in Stellenbosch, South Africa, that W6 Chair, John Hughes from Australia and Vice Chair, Raul Wazlawick from Brazil worked with other members from Europe and the USA to prepare a programme of activities over the next three years.

While we might be in South Africa, the issues needing to be resolved are global and pervasive. What should be taught to computing students to make them effective professionals of the future?

How can information technology be used to make learning more effective across the whole university curriculum? In this global village, increasingly virtual, how can we learn from each other?

The program of activities therefore will look at international curricula in informatics and software engineering, reviewing progress in the major initiatives, identifying 'best practice' around the world, and identifying what makes an IT professional.

If you would like to submit something for tomorrow's newsletter, please contact Kirsten Moller via the Registration Desk.

8th IFIP WORLD CONFERENCE on COMPUTERS in EDUCATION

What, in the World, is Distance Education?

WG 3.6 held a seminar and their Annual General Meeting yesterday. Elizabeth Stacey and Gordon Davies invited 9 speakers from 7 countries to join the discussion on what is happening in distance education around the world. Many similarities were found between countries; students still preferred face-to-face classes to online, and blended learning combining on and off campus classes were prevalent in all countries.

Planning the WCCE 2005 Program

The final speakers (Mike Chiles – W.Cape Education Dept, and Kim Tucker – CSIR) gave a fascinating report on Africa, describing the conditions in South Africa and the challenges faced to provide distance education solutions to children affected by HIV/Aids, or in rural communities with limited resources and access to teachers.

Lifelong Learning now a SIG

At its TC3 meeting last weekend, the members approved the creation of its first Special Interest Group (SIG). It will be concerned with the role of both Informatics and the resulting Information and Communication Technologies (ICT) that enable each citizen and worker to adapt to the knowledge-based society and actively participate in all spheres of social and economic life.

The new SIG on Lifelong Learning will look particularly at the interaction between the different ways of acquiring and updating all kinds of abilities, interests, knowledge and qualifications.

If you wish to contribute to the new SIG on Lifelong Learning, or can recommend a colleague who is a leader or expert in their area, please visit our TC3 website at wwwedu.ge.ch/cptic/prospective/projets/ifip or contact SIG 3.8 Chair, Brian Samways.

Just some of the challenges facing the use of ICTs in Education in Africa

- How do we develop a curriculum and learning architecture acceptable to our people?
- How can we develop and implement effective, flexible, affordable and sustainable delivery methodologies?
- What ICT networks exist in our countries for educational purposes?
- What are the costs, management and utilization implications of bandwidth used in our educational systems?
- What of the challenge of teledensity in Africa?
- What must we do to increase the number of computers in Africa?
- How do we redress the regional disparities in the use of computers?

Dr. Joseph N. Ngu, UNESCO

Lost but not Found

Have you found a lunch ticket? One delegate went to collect his lunch yesterday but had lost his ticket. Of course he was told "No ticket – no lunch". The unfortunate delegate was none other than our Conference Chair, Professor Bernard Cornu!

TC3 New Member Recruit

To become a member of one of the TC3 Working Groups, please contact the relevant person below.

WG 3.1 Deryn Watson
Informatics education at the secondary level
WG 3.2 John Hughes
Informatics education at the university level
WG 3.3 Paul Nicholson
Research on education applications on information technologies
WG 3.4 Barrie Thompson
Vocational education and training
WG 3.5 Sindre Rosvik
Informatics in elementary education
WG 3.6 Elizabeth Stacey
Distance Education
WG 3.7 Adrie Visscher
Information Technology in Education Management
SIG 3.8 Brian Samways
Lifelong Learning

IFIP / WCCE – A History

1970: Amsterdam, Netherlands
1975: Marseille, France
1980: Lausanne, Switzerland
1985: Norfolk, USA
1990: Sydney, Australia
1993: Teleteaching, Norway TC3
1995: Birmingham, UK
2001: Copenhagen, Denmark
2005: Cape Town, South Africa
2009: Brazil
Looking forward to seeing you there!

Quotes of the day

'School leavers have been exposed to more information than their grandparents were in a lifetime" – *Deputy Minister of Education, Mr Enver Surty*
"With more than 200 teachers sponsored to attend, hopefully they will be motivated to use computers in the classroom, thereby improving the standard of education in South Africa" - *Vice President, IFIP, Prof Basie von Solms*
"I am excited to learn from people from all over the world and hopefully take back some solutions which might address the many challenges facing both learners and teachers" – *Ministry of Education, Botswana, Ragton Mazhami*
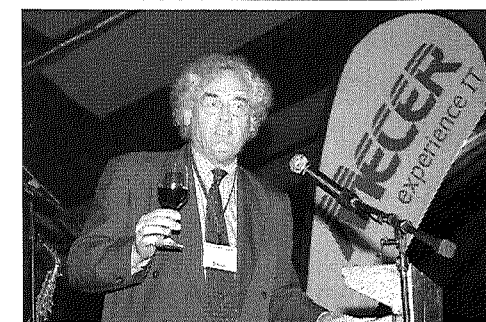
WCCE 2005

DAILY

Thursday 7 July 2005

Farewell, Totsiens, Hambani kakuhle, Hambakahle

(Goodbye in four of South Africa's eleven official languages – English, Afrikaans, Xhosa and Zulu)

Today we reach the end of the 8th IFIP WCCE. We learned a lot, experienced a lot, increased our networking and developed our "collective intelligence" together. Holding the WCCE in Africa, IFIP has been humanly and intellectually enriched. But the closing of WCCE is not an end, it is just the beginning! We will start new projects, applying what we learnt in Stellenbosch. We will continue networking our networks together. And the Stellenbosch Declaration will forward ideas and recommendations to decision and policy makers all around the world. I hope you enjoyed the WCCE and your stay in South Africa. I wish you a safe return home, and we all look forward to meeting each other again at future IFIP events!

Prof. Bernard Cornu, Chairperson, International Program Committee

Prof Cornu at the Gala Dinner

The Stellenbosch Declaration – a draft framework

Your thoughts and recommendations in brief – to be discussed and finalised at the Closing Session.

Digital Solidarity

▷ Infrastructure for global collaboration to share knowledge, experience and perspectives
▷ Equal and open access to digital information, content and media for all
▷ Approach to networks for digital communication and support to establish interaction and collaboration among students and teachers worldwide
▷ A Digital Solidarity Act - all stakeholders agree on the importance of fighting the digital divide and the principles for doing this

Learner and Life Long Learning

▷ Academic learning
▷ Professional, vocational learning
▷ Citizenship and social responsibility learning
▷ Non-formal learning
  o Through tradition and culture
  o Through social and cultural environment

Networking

▷ Network the Knowledge Society globally and locally and that it has a consequence on policies and on the way educational systems are organised
▷ Enable people to be part of networks in each community, country and internationally. All countries should take part in international educational projects
▷ Encourage and develop partnerships and involve all stakeholders
▷ Facilitate collaborative work, exchange, cooperation and new learning environments
▷ e-Learning as a way for Education for All

Research

▷ Take into account all cultures in research, not only western
▷ Research results should be used by decision-makers
▷ Look at results critically, in terms of possibility of generalizing and different cultures
▷ Ensure public / private research is balanced and complementary
▷ Establish a mutual understanding between researchers and practitioners
▷ Conduct research exploring different learning settings, such as informal learning

Decision Making Strategies

▷ Use the results of research
▷ Use a systemic approach
▷ Involve all stakeholders
▷ Promote regional and international cooperation
▷ Promote trust and security in the use of ICT

Teachers

▷ The new role and mission of teachers in the knowledge society
▷ Select good teachers and make the teaching profession attractive
"Technology matters, good teachers matter more"
▷ Empower teachers with teaching skills and ICT
▷ Teacher professional development

Meet the IFIP President

Dr Klaus Brunnstein

IFIP President, Mr Klaus Brunnstein arrived yesterday in time to attend and participate in the afternoon sessions.

As Professor for Applications of Informatics, Hamburg University and an active member of IFIP since 1976, it is no surprise that he was elected President in 2002.

In 1976 he founded TC9 "Relationship between Computers and Society". Interestingly, Dr Brunnstein is an active educator with a vested interest in Data Protection and yet has never worked on TC 3 (Education) or TC 11 (Security). "TC3 is one of the finest TCs as it attracts young people and teachers, and has a multi-faceted forward vision. I feel it is one of the essential TCs and it is wonderful to be working with International Partners such as UNESCO and UNITAR."

Even with his busy schedule as President of IFIP, Dr Brunnstein says it is an honour to be invited to speak at this event of such significance. Dr Brunnstein will be addressing the conference on the role of education in the information society at the closing session today at 12:00 in Lettere 230.

The Online Learning environment:

A useful tool, some interesting research and a fascinating case-study .

John Pearson from the University of Hong Kong, together with Sue Trinidad, has developed a useful tool for evaluating the use of the online environment for teaching and learning. Students can respond to questions about ACTUAL practice and also complete their PREFERRED response. Discrepancies between these two indicators give teachers and institutions valuable data about the success of online learning.

Michael Hammond from the University of Warwick, UK, examined the literature about online learning and highlighted points such as the uncritical acceptance of a social constructivist model underlying online learning. His case study research found time constraints of business students affected their ability to take a deep learning approach in group work. They maximise their learning in minimal time with a focus on assessment tasks. He advises cautious optimism about teaching and learning online.

Peter Smith, (working with other colleagues)

reported their study comparing two groups of undergraduate third-year computer science students on campus. One comprising Australian first language English speakers and the other students of Chinese Heritage Culture (CHC) whose first language is Chinese but who were competent in English. Studying computer ethics in fully online student-facilitated small groups was found to be highly unpopular with all the students. The Australian students saw this as an issue of time taken and inefficiency with little challenging of ideas as it was too time-consuming to do so.

The CHC students found the Australian straight-forward style of posting immediately about the task confronting and intimidating and found it hard to join in the discussions. They felt cheated and marginalised and preferred face-to-face groups and more teacher-facilitation. Their messages were as frequent as the Australian students, but were more organisational and less intellectual in content with half the number of words written. Interestingly they socialised as much online as the Australians.

Dr. Elizabeth Stacey, Deakin University, Australia

www.wcce2005.org.za

WCCE 2005

DAILY

Good Morning, Goeie Môre, Molo, Sawubona

(Greetings in four of South Africa's eleven official languages – English, Afrikaans, Xhosa and Zulu)

Premier of "ICMS"

For WCCE 2005 in Stellenbosch, South Africa, a new software tool called Icms (IFIP TC3 conference management system) has been developed and used for the first time. This tool is based on the experience of running scientific conferences by the members of IFIP TC3 over the decades. It is being used for the first time with the excellent cooperation of Peter Aspinall, MD of SBS as the local organizer of this conference. Icms has been programmed by the team of *education highway* in Linz, Austria. The features of Icms cover all functions necessary to run a conference: displaying information for presenters, uploading presentations, facilitating the reviewing process and compilation for the program. Everything is done online and all members of a program committee are always working with the same status of information. Conference organizers who want to use Icms are welcome to contact IFIP TC3 at office@eduhi.at

Panel Discussion – WG 3.3 Research

Jonathan Miller, Chairman of the ICDL Foundation of SA, attended a lively discussion yesterday on the current state of research in ICT in education – what has worked and what hasn't. Research is showing that ICT is working for teacher education and creating communities of practice; providing access for special education needs, providing access to content for both teachers and learners and for enhancing vocational skills and knowledge. However, it is still unclear whether ICT has a major role within the primary and secondary education context or whether it should find its place in the informal education sector rather. In the end, is

There is some research into many studies of ICT in education for innovation and development that suggests the expenditure far exceeds the return. There are also concerns that research in the western tradition is only partially successful and that it is time we looked at other approaches like story telling and engaging teachers and practitioners in the research process. What certainly doesn't work is replicating things that we already know don't work especially in developing countries. While there may be gloomy stories, the research suggests that slow learners gain the most from ICT as do visual learners. Computers provide an authentic environment for foreign language learning and transform boring old physics and chemistry through 'virtual
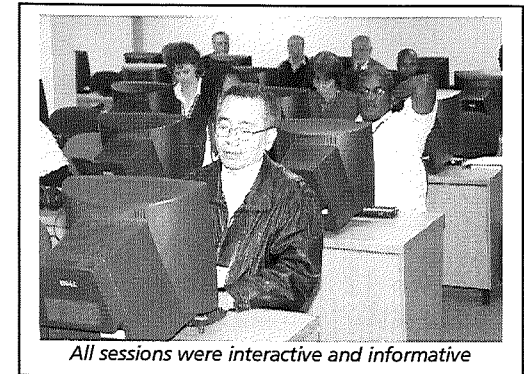
Special Students

A diverse group of students with special needs within ICT solutions were discussed in this session chaired by Elizabeth Stacey. Wallace Chigona researched the use of ICT as a tool for improving adult functional literacy in South Africa. ICT has the potential to be more motivational, interactive and culturally contextual than other technologies. He raised some of the issues for using ICT in rural and poorer regions such as safety, lack of infra-structure and the group discussed the issue of the cost of ICT which could take funds from the provision of teachers.

Researchers from the University of Melbourne, Australia, discussed the way ICT is providing the connection to their schools for chronically ill students who, though hospitalised for shorter periods, now spend a long time recovering at home. Laptops and server connections mean they can work with their teachers online and keep up socially with their classmates through secure chat areas. The social support also aids in their recovery.
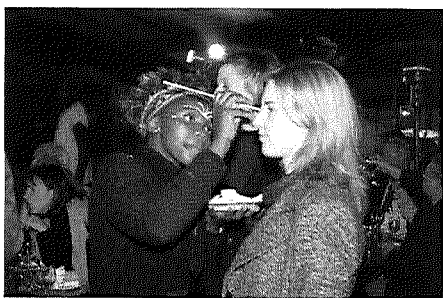

All sessions were interactive and informative

The final group of learners discussed in this session were prisoners in Austria who were involved in rehabilitation through e-learning. The team from the University of Technology in Austria first adapted software to secure the online commun-ication so they could not connect to the Internet or with prisoners in other jails.
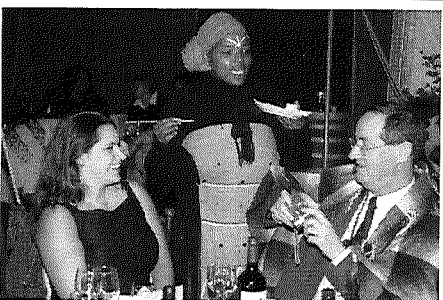
The prisoners worked in learning groups with a teacher only once a week, with mixed media, web-based courses, CD's, print etc and with tutors (often guards). They studied basic literacy and numeracy skills with computers and job specific skills. 83% passed, 25% were re-employed soon and 20% went on to further education.

Info-anxiety (Defn 1) – the gap between what we understand and what we think we are understanding
Info-anxiety (Defn 2) – the black hole between data and knowledge. It happens when information does not tell us what we expect or anticipate

A Feast – traditional African style!

Sponsored by Mecer Computers and Mustek, the WCCE Gala Dinner was a festive affair, with over 600 people enjoying traditional African food, music and dance in the magical setting of Moyo at Spier.

MC for the evening was former Miss South Africa and television presenter, Joanne Strauss, who added a touch of glamour to the informal occasion.

To kick off the evening's festivities, speeches were given by the CFO of the sponsors for the evening, Mustek, Mr Hein Engelbrecht, IFIC TC3 Chairman, Prof. Jan Wibe, International Program Committee Chair, Prof. Bernard Cornu and the Vice President of IFIP, Prof. Basie von Solms. All speeches were delightfully tongue-in-cheek, with Prof Cornu, in particular making numerous play-on-words, providing much amusement. (The World Conference on Computers in Education has been renamed the Wine Club for Collaborative Education.)
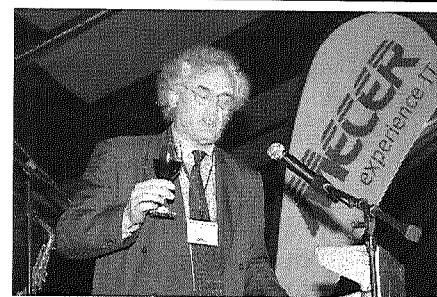
Prof Cornu's analogies to wine were in reference to the fact that the esteemed event took place on a wine farm and that people could network over a glass or two.

After the formalities, people were presented with an impressive spread. All types of African delicacies were on offer and rest assured, noone went hungry!
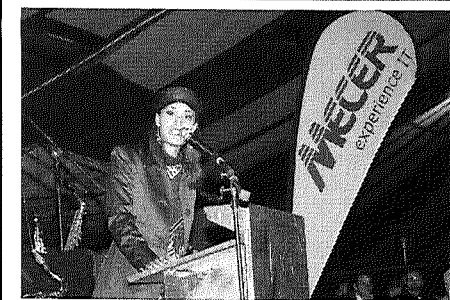
Delegates danced the night away to the beat of the African drum, acoustic marimbas and a foot-tapping jazz band.

Mecer and the organisers did an excellent job of providing an ideal platform for stimulating conversation and networking in choosing an exciting venue offering tantalising cuisine, traditional décor and superb entertainment.

As Prof. von Solms said, the error in the Gala Dinner's Program was perhaps intentional: IFAP – International Friends of African People.
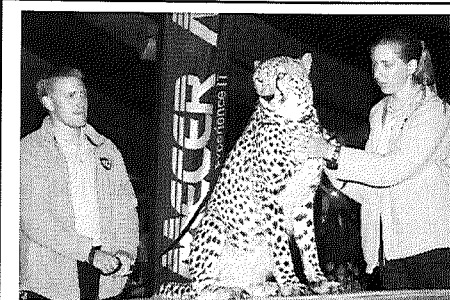

Festive fun – painting faces

African blankets were provided

The waiters wore traditional dress

Joanne Strauss – MC for the evening

0 to 80km/hr in 3 seconds

A surprise guest was none other than Joseph, the 3-year-old male cheetah from the Cheetah Outreach Program based at Spier. Liesel Smith from the Program introduced us to her feline friend, explaining the plight of the cheetah in Africa and how the sponsorship from Mecer has helped them tremendously in their efforts in educating the public.

Prof Bernard Cornu – glass of wine in hand

Joseph, the cheetah

www.wcce2005.org.za

WCCE *Cape Town 2005*

8th IFIP World Conference on Computers in Education
4 – 7 July 2005
University of Stellenbosch • Cape Town • South Africa

FOR SPEAKERS

Contribution to the Stellenbosch Declaration

The Stellenbosch Declaration will be the output of WCCE 2005.

The Declaration will be a brief document, addressing the principles, ideas, trends and recommendations which seem essential to the delegates.

It will be drafted on the basis of the input provided by delegates, speakers and chairpersons of the Conference.

It will encapsulate the key messages that the Conference wants to send to policy-makers, decision-makers and colleagues at all levels around the world.

Name: _____ Surname: _____

Country: _____ e-mail: _____

Title of your paper presentation at WCCE 2005: _____

_____

_____

ONE key idea / recommendation / reflection from your presentation (maximum 3 lines):

_____

_____

_____

Please hand this form in at the SBS Conference Office in the Lettere Building immediately after your presentation.

Within ifip

- IT societies members find a meeting place for sharing experience, and discussing challenges and opportunities
- TCs and WGs contribute to, and often lead, progresses in the state-of-knowledge and state-of-the-art

Professionalism and Standards
Academia-Industry Cooperation
Social Consequences
Research, Development and Application of IT in an International Setting
Developing Countries
Education and Training

IT Societies | TCS and WGs

ifip scientific and technological leadership
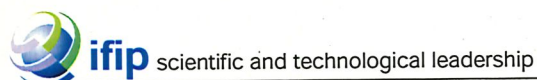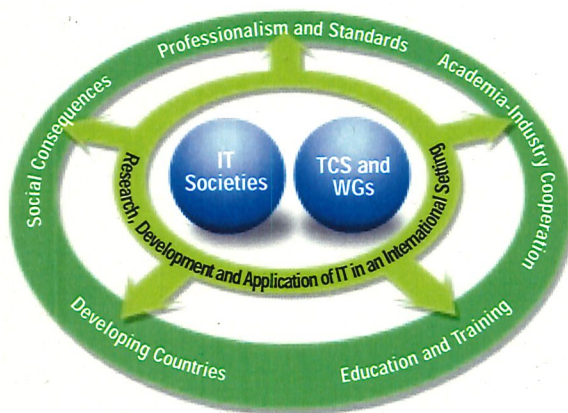
- is warranted by WG membership, based solely on individual excellence
- is asserted by the organisation of some 100 highest quality international events, and the publication of some 30 new books annually that are distributed worldwide

Members

IT Societies from 46 countries or regions

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Affiliate IT international or regional organisations

CEPIS	IASC	INFORMS
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IAPR	IMIA	VLDB

How to get involved?

Visit the IFIP web site (www.ifip.org), where you will find links to your Member Society and to the Working Groups of IFIP. You may also contact the IFIP Secretariat directly:

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A-2361 Laxenburg, Austria
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E-mail: ifip@ifip.or.at
www.ifip.org

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the leading edge of information technology

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ifip, **The International Federation for Information Processing** is a non-governmental, nonprofit umbrella organisation of national societies working in the field of Information Technology. It was established in 1960 under the auspices of UNESCO as a result of the first World Computer Congress held in Paris in 1959.

ifip

- Is the leading multinational, apolitical organisation in Information & Communications Technologies and Sciences, recognised by United Nations and other world bodies
- Represents IT Societies from 46 countries or regions, covering all 5 continents with a total membership of over half a million
- Links more than 3500 scientists from Academia and Industry, organised in 80 Working Groups reporting to 12 Technical Committees
- Sponsors 100 conferences yearly providing unparalleled coverage from theoretical informatics to the relationship between informatics and society including hardware and software technologies, and networked information systems

TC1: Foundations of Computer Science
WG 1.1 Continuous Algorithms and Complexity
WG 1.2 Descriptional Complexity
WG 1.3 Foundations of System Specification
WG 1.4 Computational Learning Theory
WG 1.5 Cellular Automata and Machines
WG 1.6 Term Rewriting
WG 1.7 Theoretical Foundations of Security Analysis and Design

TC 2: Software: Theory and Practice
WG 2.1 Algorithmic Languages and Calculi
WG 2.2 Formal Description of Programming Concepts
WG 2.3 Programming Methodology
WG 2.4 Software Implementation Technology
WG 2.5 Numerical Software
WG 2.6 Database
WG 2.7 (= WG 13.4) User Interface Engineering
WG 2.8 Functional Programming
WG 2.9 Software Requirements Engineering
WG 2.10 Software Architecture
WG 2.11 Program Generation
WG 2.12 (= WG 12.4) Web Semantics

TC 3: Education
WG 3.1 Informatics and ICT in Secondary Education
WG 3.2 Informatics and ICT in Higher Education
WG 3.3 Research on Education Applications of Information Technologies
WG 3.4 T-Professional and Vocational Education in IT
WG 3.5 Informatics in Elementary Education
WG 3.6 Distance Learning
WG 3.7 Information Technology in Educational Management

TC 5: Computer Applications in Technology
WG 5.2 Computer-Aided Design
WG 5.3 Computer-Aided Manufacturing
WG 5.5 Cooperation Infrastructure for Virtual Enterprises and electronic business (COVE)
WG 5.6 Maritime Industries
WG 5.7 Integration in Production Management
WG 5.10 Computer Graphics and Virtual Worlds
WG 5.11 Computers and Environment
WG 5.12 Architectures for Enterprise Integration
SIG-CAI Computer Aided Innovation
SIG Bioinformatics

TC 6: Communication Systems
WG 6.1 Architectures and Protocols for Distributed Systems
WG 6.2 Network and Internetwork Architectures
WG 6.3 Performance of Communication Systems
WG 6.4 Internet Applications Engineering
WG 6.6 Management of Networks and Distributed Systems
WG 6.7 Smart Networks
WG 6.8 Wireless Communications
WG 6.10 Photonic Networking
WG 6.11 Electronic Commerce - Communication Systems

TC 7: System Modelling and Optimization
WG 7.1 Modelling and Simulation
WG 7.2 Computational Techniques in Distributed Systems
WG 7.3 Computer System Modelling
WG 7.4 Discrete Optimization
WG 7.5 Reliability and Optimization of Structural Systems
WG 7.6 Optimization-Based Computer-Aided Modelling and Design
WG 7.7 Stochastic Optimization

TC 8: Information Systems
WG 8.1 Design and Evaluation of Information Systems
WG 8.2 nteraction of Information Systems and the Organization
WG 8.3 Decision Support Systems
WG 8.4 E-Business: Multi-disciplinary research and practice
WG 8.5 Information Systems in Public Administration
WG 8.6 Transfer and Diffusion of Information Technology
WG 8.8 Smart Cards

TC 9: Relationship between Computers and Society
WG 9.1 Computers and Work
WG 9.2 Social Accountability
WG 9.3 Home Oriented Informatics and Telematics
WG 9.4 Social Implications of Computers in Developing Countries
WG 9.5 Applications and Social Implications of Virtual Worlds
WG 9.6 (= WG 11.7) Information Technology: Misuse and the Law
WG 9.7 History of Computing
WG 9.8 Women and Information Technology

TC 10: Computer Systems Technology
WG 10.1 Computer-Aided Systems Theory
WG 10.3 Concurrent Systems
WG 10.4 Dependable Computing and Fault Tolerance
WG 10.5 Design and Engineering of Electronic Systems

TC 11: Security and Protection in Information Processing Systems
WG 11.1 Information Security Management
WG 11.2 Small System Security
WG 11.3 Data and Application Security
WG 11.4 Network Security
WG 11.5 Systems Integrity and Control
WG 11.7 (= WG 9.6) Information Technology: Misuse and the Law
WG 11.8 Information Security Education

TC 12: Artificial Intelligence
WG 12.1 Knowledge Representation and Reasoning
WG 12.2 Machine Learning and Data Mining
WG 12.3 Intelligent Agents
WG 12.4 (= WG 2.12) Web Semantics
WG 12.5 Artificial Intelligence Applications
WG 12.6 Knowledge Management
WG 12.7 Computer Vision

TC 13: Human-Computer Interaction
WG 13.1 Education in HCI and HCI Curricula
WG 13.2 Methodology for User-Centred System Design
WG 13.3 Human-Computer Interaction and Disability
WG 13.4 (= WG 2.7) User Interface Engineering
WG 13.5 Human Error, Safety and System Development

SG16: Specialist Group on Entertainment Computing
WG16.1 Digital Storytelling
WG16.2 Entertainment Robot
WG16.3 Theoretical Basis of Entertainment
WG16.4 Games and Entertainment Computing
WG16.5 Social and Ethical Issues in Entertainment Computing

Contribution to the Stellenbosch Declaration

ALL SECTORS

- Overcome digital divide

- More attention/awareness rising for the accessibility of learning environments(digital) and digital learning materials for students with a handicap/functional impairment.

- There are no borders , no walls on the Internet. Digital libraries built with open sharing protocols are effective tools to the wide spread sharing of learning resources.

- Student use of technology must be authentic for it to be of real use in their lives.

- A knowledge of the history of the field is essential for understanding the present - its beliefs, desires and intents for ICT in education and how it might evolve.

- E-learning is a good supplement but not a substitution for traditional classroom learning – students still value human interaction with their teachers/tutors
- Critically important that ICT use in education is rigorously assessed and evaluated – ICT must be used effectively.
- Via an understanding of the learners 21St century culture- place them at the heart of any e-learning system.
- Maintain the focus for the use of technology ie. Curriculum delivery enhancement and get all relevant role players involved including communities.
- The concept of network of excellence should be extended not only to European level, but also on a world basis.
- How might we use the technology to represent analysis of research more imaginatively.
- Forums should be used for collaborative learning and debating.

- Creativity should be a compulsory aspect and underlying principle in
    - education (and teacher training).

- There should be developed a very cheap world wide PDA, specially designed for education.

- Put ICT knowledge in a working context.

- I urge everyone involved in collaboration to seriously contemplate the use of XML/SOAP/ web services in creating interoperability infrastructures.

- Common criteria for quality assessment of e-learning. Jointly accepted credit system, eg. European Credit Transfer System (ECTS)

- Internet mediated communities as a vehicle for transformation.

- Intelligent software that implants educational characteristics in online environment can reduce the workload of online teaching.

- Focusing on teaching and learning rather than technology.

- Learning Technology Standards are essential – but how will we agree on what to standardise and how and by whom?

- There should be more debate on formal and informal learning.

- The dialogue between educators and technologists about learning technologies should be mediated (e.g. by use of Cases) to get the technology the students need!

- Keep empowering practitioners and allowing for collaboration between researchers, practitioners and decision-makers.

- In order to understand contemporary practice in education with ICT, it is necessary to know the history of its use.

- Include a little history in all that we teach since history links computing facts with people, places and events.

- Digital divide is partly caused by lack of education. Education problems can be solved by open educational resources, form of digital solidarity.

- Use of virtual collaboration tools can improve the cooperation process.

- Computers can be used to bring international communities together.

- We would like to see national initiatives and policy that support educational technology and communities that use technology.

- Use of various technologies can aid in a sense of community/immediacy while participating in a subject.

- Learning tailored to the individual student's requirements by using metadata-tagged source material.

- Learning systems should be possible to be tailored to the students requirements and allow for collaborative work.
- Next generation for of e-learning needs support for modelling the educational and learning process (visually).
- There should be improved international and professional collaboration in the ICT professional collaboration in the ICT professional field i.e. try new mergers between international and political organisations/EU-UNESCO-etc.

- Measuring knowledge and skills leaving out use of ICT are meaningless in today's society (digital/information society).
- We need to learn and reflect on both (what is) the history of ICT and all the different whys' of history.
- ICT and its history need to be related to the different contexts and cultures in which it is used.

- Effective evaluation of ICT in education may require creativity and innovation.
- Cost of ICT can be a serious problem in developing countries.
- The overhead in learning to use an ICT tool can be significant in terms of the time required.

- Via an understanding of the learners 21st Century culture – place them at the heart of any e-learning system.
- Maintain the focus for the use of ICT curriculum delivery enhancement and all relevant role-players involved including communities.
- Critically important that ICT use in education must be effective and regularly evaluated

- Not only learn ICT, but use ICT to learn.
- Reinforce research on ICT's education issues outside western countries (which dominate)
- Digital divide is still increasing → necessity of realistic strategical policies and e-piloting.

- The most important enabler for computers in education is the teachers. More focus should be given to training and motivating teachers.

- Informal learning should be better exploited and applied in structures and conditions of work at school so learners can better accommodate and be more effective.

- Learning Management Systems should not control the pedagogy. They should not hide or steal the presence of the teacher.
- Virtual Distributed experiments provide a rich opportunity for collaborative distance learning.
- Student evaluations of e-learning should be more rigorously assessed and fed into the design of e-learning environment.

- Online learning environments need to be designed carefully and appropriate instruments developed for reflection on what works and what doesn't.

- Promote and encourage Lab devices and student concrete artefacts to be exposed on the Web.

- Using a system of Open Source components a traditional lecture can be recorded, making it possible for remote students to participate.

- To make sensible use of the immense data provided by a meta digital library, you <u>have</u> to develop portals for different age groups.

- ICT allows customisation of content and approach to meet diverse needs of students.
- ICT facilitates formation of virtual communities and allows use of   various media to improve communication.

- Introduce technologies in educational processes without considering cultural and social contexts will turn in failure

- In a changing world, we need to have an idea about what LL Learners do in their professional life and personal life to be able to develop effective policies.

- Lifelong learning is required to ensure economic, social, cultural and political development of education through ICT.

- We need to question our ability to prescribe to anyone else.
- Lifelong learning is only meaningful in a local authentic context.
- People want one answer to resolve their questions about technology. There are as many answers as there are teachers.
- On line applications for courses combined with distance learning (on-line) widens the catchment area from local to global
- We need to be very careful how we interpret "research" info ICT and learning, as much ICT research is poor.
- Evalution of interventions making use of ICT need to take place sometime after the intervention

- A need to focus online learning research and practice to include issues of student diversity.

- There is a need for dedicated software for teaching, as smart as commercial general purpose products, but with pedagogical attributes.

- Related to the shift of focus from teaching to learning is a shift of focus from input to outcome and impact.

HIGHER EDUCATION
- Online learning and teaching can be undertaken by lecturers mainly for idealistic reasons, with little other incentive, despite huge increase in workload.
- It is important to introduce young researchers into research networks in
- order to expedite their integration into top research activities.
- Quality is an issue for higher education in computer science: there is need of standards and of cooperative actions in the academic community.

SCHOOL
- We in South Africa need a free broadband internet connection to ALL schools (private and government).

- Online teacher communities of learning/practice encounter issues beyond technological barriers and process. Teachers often do not have the philosophical underpinnings for inquiring into their practice.

- The internet is big, but if teachers use it well, it is manageable and can make even the world seen smaller.

- An exemplary "computer engaging" teacher must conscientiously plan for opportunities where they can actively support children using computers during quality task based computer activities.

- A central repository for student files and resources via a student portal is an achievable, viable, economic and sustainable solution.

- Learning for socially -disabled can be highly motivated by use of ICT.

- Interruption to school education resulting from prolonged hospitalisation and rehabilitation can be addressed by using ICT to maintain connection with the student's classroom.

- Social proximity in computer classroom can be highly motivating for secondary students that should be considered in learning technology.

- Does a constructivist approach really make a difference – should we do some more comparison studies to find out?
- Does technology really make a difference? In maths, it seems to help correct misconceptions in several concepts.

- Sharing knowledge of the fundamentals of maths/computer science, will raise the standard of ICT teaching in many countries.

- Information and Communications Technology must be in the HANDS of the pupils – through PDAs, smart phones, slates etc.

- Use of ICT with the help of facilitation triggers improvement of basic skills in learners.

- Software that incorporates meta-cognitive features and which records students' actions can provide strong insight into learning processes.

- Schools need Internet access. For this access to be effective it must be at broadband connectivity speeds to allow multiple users and access to multimedia sites.

- Anchoring fundamental concepts of ICT in subject-matter problems is essential to getting students to "Being Fluent with Information Technology"!

- Create higher standard through peer support between pupils.

- Teachers might use ICT in their ICT lessons but don't automatically think of using ICT in their other lessons.
- Simulation with ICT can stimulate learners.
- The Internet makes the world very small and developing countries like South Africa can take part in international projects.

- Students from schools lacking computer resources showed lower levels of self-efficacy and lower usage of tools.
- Have all stakeholders design software together iteratively.
- Open Source software can work well e.g. VPortal and eDoc project.

- Learning management systems (e.g. WebCT, Blackboard) designed for broadband access create inequalities of ease of access for students still dependent on phone line access.

- Teachers and convinced of the value of ICT to students' learning but developments in ICT are making the teachers role much more complex.

- Constructivist principles are best learnt than taught. Careful and considered use of rich tasks can provide opportunities for developing real knowledge about teaching and learning.

- Informatics education should give children orientation for their future lives.

- The learner should be always in the centre.
- The teacher has to maintain its leading role in the classroom – to much technology is detrimental.
- The entire motion of assessment can produce a real impoverishment of the learning experience.

- Some technologies work well for certain educational purposes, some don't and impact on the educational contexts in which they operate.

1. Globally people are struggling with many problems :

- Getting a job and keeping it
- The displacement and separation of families
- Contextual problems that cannot be solved by one expert
- Economic survival –getting the bread at the table , alone
- The spread of HIV/AIDS and the low age of senior family societal
- Breakdown of the country/community member
- The high number of persons who have problems with literacy

and formal education is not helping as much as it should because it is a system which has barriers to the outside world. We need system changes but then we must help the people in the system to adapt. And then we need new qualifications for our educators to help them adapt.

2.Globally people are struggling with many problems and formal education is not helping as much as it would. ICT should help overcome these by breaking down the barriers. Children's and adults attitudes to learning need to change. We must help them to cope with the problems they meet throughout their life. This is LLL in practice.

3.Globally , people are struggling with many problems and LLL will help solve these. However each LLL solution is contextual to the situation which may be for example: cultural, social , economic but generic techniques can be adapted to other contexts. Out (IFIP, TC3 and SIG3.8) work is to find these important generic knowledge solutions including the effective use of ICT.

S   We can learn some things that are useful today from the lessons of history.

S   Everyone should have equal access to ICT products, services and user knowledge in their own native language .

C   1.Build partnerships with local business and parents
     2.Use ICT to protect and nourish local culture and language.

C   1.Use of a modal improves quality of education
     2. It is necessary to develop an understanding of the culture and context for ICT.

S   It is necessary to support and teach collaborative learning because students do not learn successful collaborative skills in school.

S   All public education including lectures and seminars should be accessible to anyone via the internet interactively

D   Teach the teacher /empower the teacher

S   Much more attention needs to be paid to what is meant/understood by integration to reach the generative use of national policy otherwise representational use with dominate in practice.

C   1.Public-private partnership must be policy driven though a framework

2. Companies should develop and share the concept of corporate citizenship. And develop collaborative imitations

3.PPP needs complementarity

S   Education needs to reflect a balance between twenty first century goals and traditionally important goals , which implantation should be facilitated by ICT.
International comparative research should accompany countries' implementation of these changes.

C   1.A unified effort to construct learning objects can be adopted by n entire nation , allowing great impact of the effort.

2. There is room for improvement in course management systems to allow two or more different types of materials to be visible at one time.
3. There is need for broader study of status of pedagogical changes relevant to twenty first century goals.

C   1.To support the principal that knowledge sis a public good , the WCCE 2005 recommends that the intended organisation support the open-sharing of knowledge.

2. The knowledge gap between the developing and developed nation creates tension and intolerance . Making content free and open on the web is powerful way of reducing the knowledge gap.

S   WCCE should support open educational resources to equalise access to knowledge across the globe. Open educational resources includes high quality content and tasks to support the use and re-use of the content.
S   Projects to implement ICT in schools must be driven by education objectives rather than technical objectives(the technical tail must not wag the educational dog!)

C   1.Need to demystify informatics as a subject for 'geeks' and 'technocrats' if we are to address gender imbalance
2.Need for assessment systems that match new capabilities
3.Need further investigation of problems solving as key teaching and learning tool .

C   1.School reform needs to accompany technological use.
2.Technology must support , promote , sustain and amplify progressive educational practice.

3.Current internet policies and practice may undermine school reform

S.   The impact of socio-economic factors cannot be ignored when implementing technology for education in developing countries.

S. Governments and administrations need to support technology integration that ways that best meet the unique needs of their constituents.

S.The needs of every student could be met using adaptive hyper-media and concentrating on modules they require assistance.

C   1.A flexible monitoring system helps the leaders achieve a better use of ICT in education

2. Students may help students .Students may help teachers.
3.Flexible entrance courses at educational institutions are necessary.

S   Digital divides such as the one described in this paper , seem to extend and reflect a range of social , economical and cultural divides.

S   The design of PISA studies is appropriate for informatics education because a core curriculum is not necessary and all knowledge sources were treated on an equal basis.

S.   The computing information sciences(ICT) discipline should find ways to make computing safe and communications /computing utility for the world and all people.

C   1.The task of developing descriptors to define and distinguish e-learning is difficult , but important for developers.

2.Students who are well prepared can teach teachers about technology to the benefit of both teachers and students.

3.Papert's theory of constructionist learning can be implemented on-line with adult learners with very impressive results.

Sneed for e-learning descriptors . Please undertake projects to develop a shared necessary list of learning properties unique to e-learning.

S   We should carefully investigate ways of using digital technology for formal summative assessment, ensuring student identity is authenticated.

C   1.ICT is more than computers. Mobile phones are forgotten in the area of education

2.In educational research more attention should be given to how to get better education with ICT.

3.Plagiarism is in many cases the result of a badly design education and not per say the fault of students,

S   Keyboarding is still an essential skill for computer users in the 21st century

S   Pursue possibility for zero rating sms for student learning

S   BLANK

S   Need to share best practice in construction of digital content – how can research on learning be translated to curriculum focused digital content?

Dear colleague,

I would like to draw your attention on a very important issue: As an output of the
Conference, we are preparing the "Stellenbosch declaration", to be forwarded to the
WSIS (World Summit on the Information Society) and to other appropriate persons and
institutions.
Below you will find a description of what the Stellenbosch Declaration is.

In order to prepare this declaration during the WCCE, we need the help of all
Chairpersons: The Declaration will be drafted on the basis of the input provided by speakers and
chairpersons of the Conference. Each speaker is asked to provide 1 idea or recommendation (not more
than 3 lines) ; each chairperson is asked to provide a set of 3 ideas or recommendations from his/her
session. This must be done on the appropriate form (" elements for the Stellenbosch Declaration " ; the
form has to be given back to the SBS Office at the Conference at the end of the session.

I count on you for:
- being sure that you get the appropriate forms, for you and your speakers, before your session (ask
the SBS office on the conference site);
- gather the forms from your speakers, with one idea or recommendation each;
- fill your form with 3 ideas or recommendations from your session;
- give all the forms to the SBS office soon after the end of your session, so that the drafting group can
take your input into account.

I thank you again for your valuable contribution,
with my best wishes,

Prof. Bernard Cornu
IFIP WCCE 2005 IPC Chairman

THE STELLENBOSCH DECLARATION:

IFIP TC3, the Education Committee of the International Federation for Information Processing, is holding
its World Conference on Computers in Education (WCCE 2005) in Stellenbosch, South Africa, 4-7 July
2005. WCCE is held in a different country every five years.

In Stellenbosch, more than 600 delegates, from more than 30 countries from all continents will work and
reflect together for 4 days.

The WCCE Conference is a major opportunity to gather educators, teachers, practitioners, decision
makers, researchers for a common reflection about Information and Communication Technologies in
Education. The conference is an occasion for sharing our experiences, ideas, projects, policies, for
making everyone aware of the < state of the art > of the integration and use of ICT in Education, and for
addressing the main trends and evolutions in Education over the next decade

The WCCE Conference will have outputs, for a wider audience than those who attend the conference.
Some key messages are to be addressed by the Conference delegates to all their colleagues around the
world and to the decision makers in Education at all levels.

This is why we will create the < Stellenbosch Declaration >, as a major output of our work at WCCE
2005.

The Declaration will be a 3 pages document, addressing the principles, ideas, trends and
recommendations which seem essential to the delegates.

The Declaration will be drafted on the basis of the input provided by speakers and chairpersons of the
Conference. Each speaker is asked to provide 1 idea or recommendation (not more than 3 lines) ; each
chairperson is asked to provide a set of 3 ideas or recommendations from his/her session. This must be
done on the appropriate form (< elements for the Stellenbosch Declaration > ; the form has to be given
back to the SBS Office at the Conference at the end of the session.

Individual contributions are also possible (3 lines maximum), and must be provided on the appropriate
form, available at the SBS office.

A synthesis of the contributions will be created by the drafting group. Two working sessions, open to all delegates, will discuss and finalize the Declaration (Thursday July 7th, 8 :30-10 :00 and 10 :30-12 :00). The final Declaration will then be presented, discussed and submitted for approval at the Plenary Closing Session of the Conference, Thursday 7th, 12:00-13:30, which will be attended by the IFIP President.

The Declaration will then be forwarded to suitable forums, and particularly to the WSIS, World Summit on the Information Society, the second phase of which will be held in Tunis in November 2005.

This will make our Conference have an impact on what happens in Education far beyond our own organisations and long after we have gone home!
I thank you for your contribution,

Bernard Cornu

STEERING PROFESSIONAL DEVELOPMENT SYSTEMS FOR TEACHERS AS A LEARNING ORGANISATION

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ABSTRACT

This paper looks at the monitoring systems and the thought processes that took place in the organization, pedagogy, communication and technology, conceived by the F3-MITIC[1] project managers (interstate project of The Geneva Education Department), to organize and supervise the learning of teacher educators.
We present the results of 3 years of experience in managing a project, which emphasizes a socio-constructivist approach of teacher education, and which considers the reflexive approach system itself as a "laboratory" in constant evolution. Indeed, encountering frequent difficult situations forces us to imagine innovative solutions and to change our strategy in order to take into account the institutional and social settings and context.

Besides the description of numerous tools that we have set up to favour the development of competencies of MITIC teachers of teachers and in view of privileging collaborative learning and a reflexive approach (creation of scenario groups, learning teacher logbooks, work spaces for recollecting and building up experience, formative evaluation, learning process regulation, etc.), as well as steering the project (participant observation, external advisors expertise, participant productions and implementing analysis methods, etc.), we demonstrate the importance of the thought process, which accounts for the mental representations of the different actors and favours social interactions, which is important for the success of such networked education.

We present the benefits the management of education projects can obtain with methods aiming at developing in all participants a culture of critical analysis and reflexive thinking. We think that steering (the thought process as) a *learning organization*, considering continuous learning as a central value and operational method, favours the professional development of teacher educators. <-- do you really want to steer the thoughts of participants ?

KEYWORDS
Teacher education, management of innovative projects, reflexive approach, professional development, collaborative learning, social interactions, learning organisation, media education, life long learning.

1. INTRODUCTION
Since the beginning of the F3-MITIC project, we postulated that a system, which ambition would be to *work as a learning organization*, should promote *collaborative learning*, development of *reflexivity*, *priority of pedagogy* over technology as well as exchanges between participants and the recollection and building up of experience (*collective memory*). We present here the development status of this system after three years of activity.

1.1 Brief description of the project F3-MITIC
F3-MITIC is a learning process for teacher of teachers (F3) in media, image and ICT (MITIC) started by the Canton of Geneva Education Department. The aim of F3-MITIC is to develop the motivation and competencies of teaching professionals to provide courses to further teachers or to operate as resource-persons in teaching institutions.

The project is part of the general program aiming at integrating pedagogical use of media, image and ICT in the teaching and learning processes at all education levels. It is an attempt to answer the growing needs in education of teaching personnel in this field (Morel, Domenjoz, Lachat *et al*, 2003).

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[1] F3-MITIC is a learning process for teacher of teachers (F3) in media, image and ICT (MITIC)

This education system named *Public-Private-Partnership-School on the net*, was created under the initiative of the Swiss Confederation, the Cantons and private economy for the 2002-2007 period. It aims at developing competencies at all basic levels in term of ICT and media teaching. The F3-MITIC project is supported by the Federal Office for professional education and technology (OFFT).

1.2 Basic ideas for the system set-up

The setting up and steering of a new learning system is a complex process threatened by multiple pitfalls (defensive routines, logistics, "polite interest" from the authority, simulation of a learning stance, fear of changes, difficulty to assume various roles, etc.).
It was all together necessary:
- To elaborate the outlines of a learning system in an established institutional setting
- To gather a team able to develop the thought process and to organise the contents of the learning system in practice
- To control the learning environment
- To assist the participants day by day
- To keep on target meeting the original project

Encountering difficult situations kept us in a constant research process and forced us to continuously look for new ways of improving our strategy in a systemic perspective.

2. GENERAL FRAMEWORK

The learning system became progressively more complex throughout the years until its current format. The synthetic representation of its main components is described as: *a learning area,* which goal is to offer a setting for the development of knowledge and competencies of the learning teachers, *the steering* of the system includes the project manager and the coordinator, who are both collaborating with the representatives and the external advisor expertise taking part to the development of the project. To ensure building up of available information, we created a *communication platform* to carry out the interface among actors involved.

Figure 1. System components

Project partners, steering and monitoring system, communication platform and learning area

2.1 The partners of the project

The project was created by the Service Ecoles-Médias (SEM) at the Geneva Education Department in setting-up a partnership with the Canton of Valais. As described above, this project was generously supported by OFFT, who's responsibility is to regularly check that the project is developing according to its initial objective (*controlling process*). Since the beginning, the University of Geneva and some private partners were associated with the development of the project.

2.2 The steering

Steering the system is ensured by the *Steering Committee*, which includes delegates from the teachers staff department and a joint commission (authority/trade union) of the continuous education services, institutions ensuring initial education of teaching professionals, the SEM managers (responsible for the project) and the *project manager*. The *coordinator* of the *Steering Committee* carries out the follow up of the working group and works closely with the *project manager*, who assumes the setting-up of modules and follow up of the learning participants.

The system benefits from input of external advisors. Every year the team responsible for the project writes a final report to the controlling authority on the basis of data collected by evaluations done throughout the year at different levels. This document evaluates the results in relation to the initial objectives and presents a financial summary.

Geneva University staff and advisors from the private sector are associated to the project. Several studies supervised by Prof. Daniel Peraya (Geneva University) on the analysis of scenarios created by learning teachers, on the analysis of new modalities created for teaching and its steering as well as evaluation of the needs of teachers of teachers and resource-persons at the Education Department have helped us to put this project in place.

Several external advisors from private partners provided their knowledge for the teaching and took part in the analysis of the modules (participating observers) as well as the evaluation of the learning process at the end of each year. The observations of modules were done through the "scope" of *adult education* and the *"gender scope"*. Indeed, one of the specific objectives of the *learning system* is to develop the participant's sensitivity to the gender issues. The outcome from these partnerships was available to the participants and many cantonal officers and were discussed in the Steering Committee meetings. The outcomes provide the project managers with valuable information and advice in order to step back if necessary and constantly innovate to improve the system. The outcome from these partnerships is essential to the steering of the system in view of a learning organization.

In order to give a feedback to the learning teachers, we created a *readers forum*, which provides hints on elaborated pedagogical scenarios. The reader is considered as a *"critical friend"*, a partner able to provide advice and support to other learning teachers in a cooperative way. In F3-MITIC, the "reviewer friends" are the people who already completed the same learning process. (Kember *et al*, 1997).

At the end of the learning process, each participant presents a reflexive work (reflexive personal final report) to an international college of experts, who are active in the field of MITIC pedagogy. The experts discuss and comment in public the participant's work and deliver a synthesis report. This presentation day aims to be a step in the certification process and a period of reflection.

2.3 The communication platform

To collect, build up and emphasize the experience from the research, the learning teachers productions and the resources provided by the organizer, we created an exchange and communication network. This system aims at the *creation of a shared culture by the actors*, to exchange information with our different partners and finally to keep in touch with the teachers who already completed this course.

It is important to dispose of ways to collect, manage and provide information in and out of the system in an efficient way in order to enable our system to evolve.

The communication tools currently used are:

- A web collaborative tool (Twiki)
- A publishing tool (SPIP) for sharing pedagogical scenarios
- A "classic" website to present the learning system
- Electronic mail

The web site provides documents presenting the learning system. It is a static site today. The electronic mail, besides the interpersonal communication among learning participants, persons in charge and partners, is an important monitoring means since participants only meet every two or three weeks for the courses (modules). Electronic mail is used for all memos sent by the project manager and the coordinator to the participants on a need basis (due dates, technical information, announcements, general information).

The intense reflection and creativity expressed in this professional development environment throughout the year is evidenced by the important usage of the Twiki and SPIP applications:

Table 1. Usage of the communication tools Twiki and SPIP

Role as	Twiki (collaborative web)	SPIP (Content Management System)
participants	to write personal pages to evaluate each module to contribute within each module to post suggestions to participate in a chat to write the reflexive personal final report to discuss in the forum	to elaborate scenarios to write a report on the creation of the scenarios to publish scenarios to discuss in the forum
project manager, project coordinator	to dispatch reference documents to post practical hints to display resources to save archives to pilot and monitor the participants	to discuss in the forum

	to discuss in the forum	
readers ("critical friend")		to give feedback reports to discuss in the forum
educators	to display resources	
researchers, observers	to share study cases and reports	to publish study cases and reports
experts	to give reports and suggestions	

3. THE LEARNING AREA

At the centre of the learning system, we have an immaterial entity which corresponds to an attitude that we constantly try to develop and which is at the heart of the learning F3-MITIC GE/VS - system values: *the reflexive approach.*

Figure 1. The learning area

The steering and monitoring system, the communication platform , the components of the learning system (modules on different themes, elaboration of teaching/learning scenarios in groups, exchange modules on scenarios, assessment day) and the tools for the reflexive approach (evaluation of each module, personal log, reflexive personal final report-RPFR)

The learning program spreads over a complete school year and is available for a maximum of 25 teachers per class. The professional development curriculum includes taking part to 11 one-day thematic modules, the creation *in duo* of 7 pedagogical scenarios and the writing of a reflexive personal final report, which is defended in front of a committee of experts. These thematic modules are completed during the year by 3 half days of exchanges to sum up the pedagogical scenarios created by the participants. A certification ceremony day ends the learning year. In order to keep in track the participants in the learning process, they are invited to maintain a personal log book. The program presents a total of hundred hours of direct tuition in addition to 150 hours of distant collaborative work.

3.1 Eleven thematic modules

The thematic modules offer the participants theoretical inputs and thoughts for the creation of specific strategies at the adult education level. In this perspective reflexive analysis and criticism of the experience gained from each modules is a very important component of this teaching system. According to the collaborative working approach, the 11 modules themes are: --> where are the eleven modules ?
- Status and roles of the media, image (MI) and ICT (TIC) in teaching and learning
- Cultural and social impacts of MITIC integration in education
- Information and communication systems, modelling and simulation
- Multimedia and Internet: integration of technologies in the learning process
- Adults education

For more information: http://wwwedu.ge.ch/cptic/f3mitic

3.2 Creation of pedagogical scenarios

Each module is organised on a theme. It is the opportunity for the participants to develop in duo (team working) a pedagogical scenario on a new project using MITIC in teaching/learning. This thought process aims at emphasising the *creation of specific strategies* for adult education and reveal transdisciplinary uses of media, images and information and communication technologies in education.

A *pedagogical scenario* is a way to explain and communicate a learning project integrating MITIC activities. The scenario must describe in detail how the authors imagine creating a learning situation. The scenario is organised for determined learners. The notion of scenario can encompass the terms of project, pedagogical sequence, pedagogical uses, learning-teaching tools such as those usually included in pedagogy. The *reflexive*

and critical analysis of this live experience in each of the modules is an important component of the learning process.

In the process of learning, the creation of scenarios plays an essential role. The scenarios are seen more as a learning activity helping each participants personal development, rather than a way to evaluate the product to be publicised. Therefore, all means able to help trigger a feedback are valorised (reader reports, exchange day, add-ons to the scenario, other participant's reactions via the forum) because they are the privileged means to develop the participants competencies. The scenario should thus be a reflexive way of learning and an opportunity to put in action a pedagogical project.

After having created each scenario and after having presented it to the group, the authors are invited to come back to it and to produce a short report summarising their thoughts, this "post scriptum" is then added to the scenario.

3.3 Exchange modules
The *exchange modules* are an opportunity for the participants to analyse the scenarios they created and to develop a reflection on themes chosen by the managers of the learning system. The participants can also experiment the use of models developed by TECFA (University of Geneva) and others *to analyse and to criticise the modules* in a constructive way. In the learning process, the exchange modules are privileged periods allowing the participants to *share* experience, to try to enter scenarios of colleagues as well as to *identify* their knowledge and lack of knowledge.

3.4 Certification ceremony day
At the end of the year, participants who followed the entire course successfully are to present their reflexive personal final report to a college of experts. This day is dedicated as much to reflexion and sharing of experience as to the official certification. It brings the class and invited people together: members of the steering group, State officers, research advisors.

At a round table, participants present their oral contribution emphasising a chosen aspect of their learning process and discuss it with the experts. This moment represents the culmination of a reflexive work conducted throughout the year by the participants.

4. THE REFLEXIVE APPROACH
The system presented essentially aims at enabling the participants to acquire a reflexive and critical attitude from the very beginning of this education system. As Philippe Perrenoud, inspired by Schön's work (1983), showed in several books and papers, it is essential to put the reflexive practice at the centre of the learning project in order to reach a true professionalization of teacher educators (Ph. Perrenoud, 2001). We therefore elaborated multiple means to stimulate the development of the participant's state of mind presented here. We not only encouraged the participants to develop this state of mind, but the organisers also submitted their own activities to these reflexive procedures so as to get their own feed-back. The constant analysis of activities and their critical review is for the people in charge of steering the learning process, essential in order to allow its evolution.

4.1 Evaluation of modules to module analysis
From the first year, asking for a feedback and an evaluation of each module, was a constant concern and in coherence with the general view of learning monitoring. This satisfaction survey model rapidly showed its limits. It appeared to the organisers that to take into account the specific teacher of teachers attitude, a *reflexive dimension* should also take place in the feedback suggested at the end of each module. The *module analysis* concept in use today answers practical expectations. It is based on:
- Feeding the personal Log Book
- Sharing the different points of view on the learning process
- Emphasising reusable facts and knowledge in the scenarios

The organisers therefore suggest an oriented reflection in order to put forwards pedagogical, methodological, institutional, organisational, etc. aspects, so that the participants can position themselves away from the learner attitude and acquire a teacher or resource-person profile. It is necessary to ensure steering of the learning process in the short and long run through directed or open questions and through an exchange of information between participants, organisers, and teachers.

However, the concern to emphasise relevant elements in the contents (meaning) is increased by the organisers concern to offer the learning teachers:
- Various reflexive tools to analyse learning situations (models, indicators)
- Feed-back processes (written, oral, graphic, mandatory, optional, reactions to organisation auto-evaluation).

In order to adapt to real life situations and to the steering needs, evaluation questionnaires are used for each module.

The module evaluation by the learning teachers is completed by the external expert's observation reports and the evaluation day at the end of the year.

4.2 Personal Log Book
F3-MITIC learning system participants are invited to keep a personal Log Book throughout the year. This Log Book seems well adapted to collect information in the adult education process. According to Daele (2000), the Log book is a personal tool which contents can be freely shared with everyone. It is a document, which should be a reflexive tool as well as a self-evaluation tool. It could contain reflections about concepts discussed in the modules, notes on interactions (observations, opinions, reactions, etc.) and encountered issues (understanding, collaboration, formation evolution) or personal feelings. The Log Book should help to better evaluate the progress made and be a valuable resource while producing the personal final report.

4.3 The personal reflexive final report
At the end of the F3-MITIC education, each teacher under training writes and presents a personal reflexive final report in which he/she brings a critical look at his/her training path and situates him/her-self in the learning process. This personal report therefore identifies acquired competencies, deficiencies and personal needs, explains why the learning process shifted his/her representations or practices in term of the following parameters:
- MI and ITC fields complementarities
- Adult education specificity
- Pedagogical process diversity
- Transversal competencies implementations
- "Collaborative" type work

Participants can select out one of the five parameters without ignoring the others. They are free to emphasise for example in class work (module) or distant work (creation of pedagogical scenarios). The personal final report is the result of a reflexive and analytical process which the participants are invited to practice throughout the F3-MITIC curriculum. The personal final report therefore *interacts* with other documents which the participants produce during the learning process such as:
- Pedagogical scenarios which evidence the reflection conducted for each module
- Module evaluations carried on as a self-evaluation of one's own conduct of the learning process
- The personal Log Book

At the end of the year, all participants meet to present their work to the project manager, the coordinator and a group of expert. Attendance to this day is compulsory for certification.

5. LEARNING ORGANISATION

5.1 A research-action perspective
Thanks to the support provided, the learning system was able to develop a research component, which lead to studies and analysis of the system itself and its environment (observation, modelization, and advice) which constantly fed the reflection of the steering staff and the learning participants. This thought process allowed us *to build an inside expertise*, which lead to enrichment of the steering tools. We also relied on partnership with our University and the private sector for their expertise. Since the beginning, we adopted in our work an *action research learning* perspective following Kurt Lewin works.

5.2 Towards a learning organisation

A *learning organisation* considers the *systemic approach* and permanent learning including its operational processes as it's central values. It uses groups of participants for its *continuous development*; sub-system's learning at all levels, with the external support (Senge P., 1990).

Our learning system tends more and more to apply a definition of the learning organisation in line with Alain Bouvier's (Bouvier A., 2004) suggestion :

> "" *une organisation intelligente ou apprenante est un système d'actions, de conduite de l'action et d'apprentissages collectifs, qui s'organisent pour apprendre en permanence, capitaliser ses savoir faire et ses compétences, pour les transmettre et se transformer volontairement pour atteindre sesobjectifs en fonction des évolutions de son environnement, de ses ressources, de sa culture et des représentations des groupes d'acteurs en son sein. Pour cela, elle s'appuie sur les techniques de résolution de problèmes, les simulations et les expérimentations, la régulation de ses procédures, la remise en question de ses processus (par opposition à une approche centrée sur les tâches ou sur la stratégie) et sur une adaptation permanente à son environnement. Elle s'inscrit dans le paradigme systémique et la pensée complexe (au sens d'Edgar Morin). Elle assure une veille épistémologique, ontologique, éthique, scientifique et technologique".*

5.3 The foresight spirit

Over the past years, passionate talks took place in our *learning system* group about the role and importance of creating scenario units.

As creating the future presupposes banishing the lack of foresight in order to avoid being put under pressure or faced with obsolescence, innovation in pedagogy must follow the same pattern.

It is indeed well known that facing the uncertainties of future potentialities (evolution of the public educational system, integration of MITIC in teaching and learning, etc.) the three main attitudes could be:
- Remain passive (undergo changes) <-- why passive ?
- Be reactive (wait for changes and act)
- Be prospective in the sense of pre-activity (be prepared to an anticipated change) and pro-activity (provoke the desirable change).

The main basic characteristics of a foresight stance are:
- A pluridisciplinary systemic inspired attitude
- The will to consider the "long term" dimension
- The will to integrate breaks (threshold effect, rule modification, innovation, etc.)

6. CONCLUSION

The survival of an innovative system is often related to the possibilities there are of transforming the institutional setting in which it is included. It therefore implies the need to be able to force changes in other actor's minds. This is why interfaces such as, in our case, the "steering committee" are of such importance. This is a *strong constraint*.

The F3-MITIC experience is part of an inevitable process of *teaching staff professionalization* at all levels. This phenomenon is reinforced by the evolution of the setting in which the educational system takes place, such as the world becoming more and more dynamic and demanding regarding information, knowledge and communication tools. For our population of teachers this means acquiring new pedagogical, technological, communicational, organisational and citizenship competencies. The concern regarding professionalization is therefore very important.

In term of *learning organisation management*, it is more and more obvious that it becomes essential to review the steering system which cannot only rely on quantitative and economical criteria, but needs to turn towards basic criteria, values and strategies involving all participants of the system so as to make them actors of their own learning.

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Thanks