The Bento Gonçalves Declaration for Action

July 2009

Preamble

This action plan is the development of the participants at the 9th World Conference on Computers in Education 2009. It was the first WCCE to be held in South America.

The theme of WCCE 2009 was **Education and technology for a better world.** The conference sought to enlighten and explore different perspectives of this theme, covering all levels of formal education as well as informal learning arenas, societal aspects and challenges that are faced by developing countries. The conference brought together professionals from all continents working in the field of Education and Information and Communication Technologies (ICT). The conference built on the previous WCCE Stellenbosch Declaration with a strong declaration for action for a better world.

The 9th IFIP World Conference on Computers in Education (WCCE 2009) was an IFIP event hosted by the Brazilian Computer Society - SBC (Sociedade Brasileira de Computação), and organised by UFRGS (Universidade Federal do Rio Grande do Sul), UFSC (Universidade Federal de Santa Catarina), and IDESTI (Instituto de Capacitação, Pesquisa e Desenvolvimento Institucional em Gestão Social de Tecnologia de Informação).

All conference participants, speakers and session chairs were invited to propose ideas, recommendations and reflections to contribute to the declaration for action. Over 200 responses were received by the International Programme Committee. The many varied concrete proposals were analysed and presented to the final conference session by the TC3 Chair Bernard Cornu and published in the IFIP TC3 website. The next stage is to produce the declaration and to disseminate it around the world.

The main themes

The ideas, recommendations and reflections suggest a number of main themes for concrete actions. At the heart of the submissions it is clear the learner and the teacher are necessary to realise the benefits of education and technology for a better world. In order for the benefits to be realised, the teacher and learners need a curriculum that is shaped as a result of initiatives that are local and global. This milieu of teaching and learning is enabled by the professionalism of the educators, the research that provides new insights and meanings to better exploit the technologies we have and those emerging, utilising the learning environments that provide a gateway to new ways of knowing and ways of learning in closed and collaborative communities. Together the 8 themes are the basis of concrete actions. Each theme has a description and a quote from participants, speakers or session chairs. The themes can be visualised in the following figure.
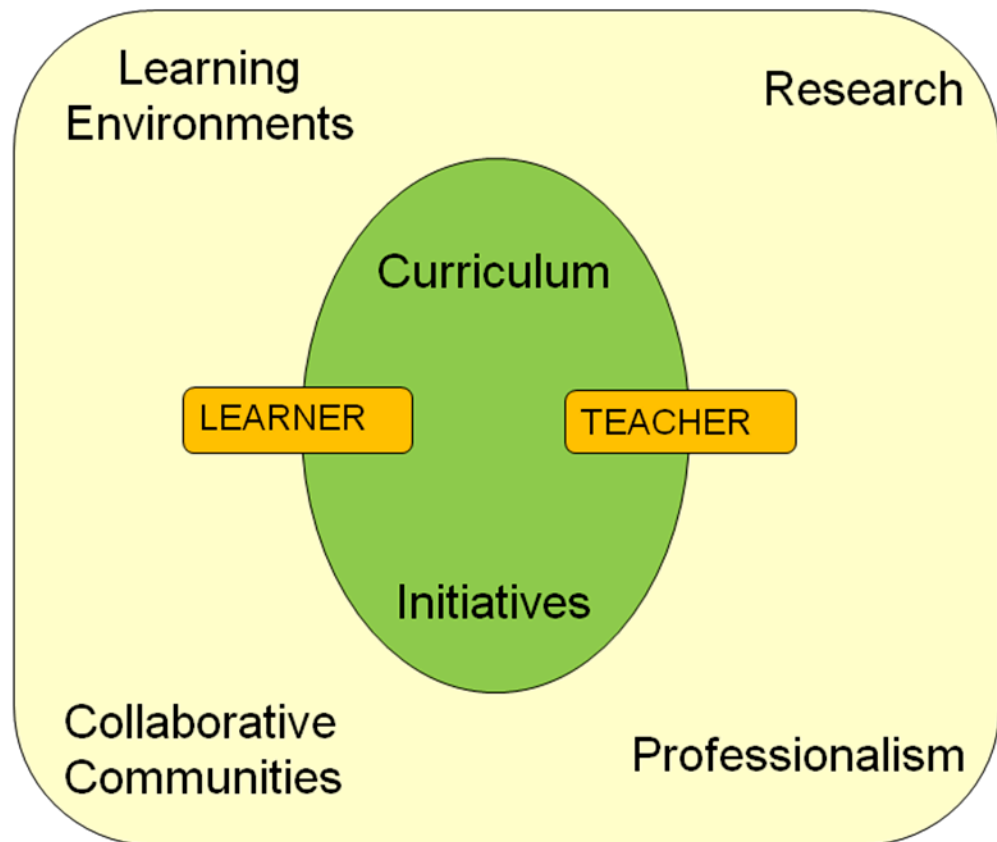
Figure 1 – Emerged themes during the 9th WCCE

Learner

The learner, the lifelong learner, requires the personal skills rather than the technical skills for an active and responsible life. The learner, as a child and as an adult, needs to be able to work with people and machines; they need metacognitive competencies. The learner, belonging to the net generation or not, has to have the opportunity to be familiar with digital literacy. The teacher must be able to support the learner to develop the motivations for learning, for reflection about learning, developing critical thinking competencies.

"We must recognise the fact that young people see ICT as naturally given equipment. If we do not use that as a positive fact we will lose the new generation."

Teacher

Pedagogy is crucial in teaching. Teachers are recognising that the new digital tools do change pedagogy; they have the capability to transform teaching. For a better world teachers must develop a new professionalism. The new professionalism will be local and global, with teachers' part of a global electronic network. Teachers require appropriate education opportunities, they need lifelong opportunities, they need to be provided with their own elearning experiences offering distance teacher education opportunities and offering international cooperation.

"Teachers have to have their own e-learning experiences before they are able to use it in their own teaching processes."

Initiatives

The ethics of education and technology for a better world are inclusive; they must be e-inclusive, identifying the needs of all learners and teachers including those with special needs, such as people who are deaf, the elderly and disengaged teenagers. National initiatives and policy making to ensure e-inclusion operate in the international context enhanced by exchanges between national programmes and their practitioners. Parents can secure effective home-school communications, bringing influences on the pupils' use of the computer and the Internet for social goals as well as for learning, but only if they themselves are supported. Initiatives such as IFIP AGORA are a way to make actions concrete through ateliers and studios.

"The CEIBAL Plan gave a laptop computer to every child in Uruguay; the social impact of the computer literacy at school and in all society is very promising and should be emulated

Curriculum (and competencies)

Education and technology for a better world requires the continuing renewal of the ICT curriculum alongside informatics and computer science. Informatics and the pedagogy of informatics teaching help with the learners' creativity with abilities in many domains. Digital literacy complements informatics with differing curriculum and competencies with many teachers requiring clearer standards for both. The curriculum should include the history of computing to widen the learners' understanding of computing, its recent timeline and rapidly changing impacts.

"We should try to produce standards in digital literacy which could be used as recommendations for all (initial) teacher training in universities."

"To compose an international group of educators to (re)define the core aims of the curriculum of informatics and computer science – the subject has changed, the students have changed, education has changed since UNESCO and other comparable institutions established the standard content."

Professionalism

Just as ICT is local and global so is the professionalism of educators who now require a greater mobility of ideas and individuals with national and international mobility and networks the norm anywhere in the world. There needs to be collaboration between different kinds of professionals, supporting multidisciplinary groups, bridging the gap with other fields in education, ICT and the knowledge society.

"The strengthening of the scientific and technological development of Latin American and Caribbean people would greatly benefit from free mobility od academia and professionals for whom reasonable equivalency of degrees, curricula and disciplines should be promoted within a general programme of tertiary institutions accreditation."

Learning environments

Learning environments may have differing names according to their purpose and the technology used such as personal learning environments (PLE), virtual learning environments (VLE), Learning Management System (LMS). All of these learning environments seek to help learners take control of and manage their own learning, providing support for learners to set their own learning goals, manage their learning managing both content and process and to communicate with others in the process of learning. They are resonant with education and technology for a better world. Learning objects and web 2.0 tools can be used in a classroom and to extend and create new classrooms for open and distance learning.

To operate effectively they require a focus on technical and pedagogical design, knowledge and understanding, drawing on standards for interoperation allowing local and global communities of practice. These can be proprietary and open source, they can be text and multimedia, using virtual spaces for all, and they can remove barriers to learning. The acquisition of content and the quest to discover rich and varied resources for learning are all made easier by the adoption of standards. The new technologies will continue to challenge the learner and the teacher, creating opportunities for the digital native and problems for the digital immigrant; how will they use podcasting and mobile learning with their classes.

"Develop open source software to allow standardised learning objects to be used in different kinds of learning management systems and accessible for all."

Research

To realise education and technology for the better world will require more research as well as learning from that research. What is the pedagogy? How do we develop digital literacy in our students? What are the new forms of interactions we must use? Will learning with technology provide long term solutions – what will longitudinal studies tell us? The questions are never ending; technology will continue to challenge enquiring minds. The research should be in collaboration with industry as well as education, working with small and large companies with a focus on applied research in the knowledge society. The research must include schools and practitioners working in schools not solely in research institutions.

"Research and development into digital literacy curriculum and development. E-inclusion and learning gains for adult learners and lifelong learning."

Collaborative communities

The better world of education and technology is a connected world with increasingly ubiquitous connectivity and access to technology for all citizens. Fundamental to the realising the benefits is the nurturing of collaborative communities sharing resources, exchanging ideas, using social networks, establishing and supporting global networks as well as those that are local to the teachers and learner.

"Give more emphasis to collaborative learning, it is more effective than individual learning."

Creating actions

To realise the concrete actions from Bento Gonçalves will require commitment from those who can create education and technology for a better world. There were personal actions from delegates, actions that will be taken by IFIP TC3 and actions that will result from the influence that this declaration will have on those who can and do determine policy and practice, who provide leadership to their society. How do we get started?

A good starting point is to ask ourselves about the 4 pillars of education described in the Delors Report, the UNESCO Task Force for the 21st Century published in 1996. The 4 pillars – learning to know; learning to do; learning to live together; learning to be – how do we move them to the digital age?

The IFIP TC3 makes a proposal to UNESCO that the 4 pillars should be exemplified for the modern age of 2010, the world of education and technology has developed rapidly in the last 15 years as have the young people of the world.

The Declaration is available at http://www.ifip-tc3.net

This declaration is free for translation, publication, quotation, etc., under the conditions that there is no change in the text and that IFIP TC3 is clearly mentioned as the author.

Mike Kendall, first draft 21st September, revised 10th December with Ana Carvalho and Bernard Cornu