

Envisioning the future of ICT and HE

Paris 25.03.15 UNESCO headquarters –

The Times They Are A Changing (Bob Dylan, 1964)

Life wide use of ICT

Mobile technologies/internet at several platforms: employees available at any time/where

- Nurses in home have access to their patient files –
- welfare technology in health/elderly care
- Teachers are online with students (LMS, Facebook ...)
- Engineers bring their tools easily along
- Administrators and leaders are available anytime (respond to mail, early/late/on holidays or when at conferences)
 - 24/7 open offices for application for services: construction allowances
 - Libraries can be open 24/7
- Post/banking/
- Learning and working takes place more often outside the schools/universities and workplaces – blended learning = BLENDED LIVES

ICT facilitates collaboration, learning communities - Social learning

Learner centred: wider variety of learning materials, including video, simulations ...

Flipped classrooms – flipped learning at workplaces (introduction online course to prepare a more effective course at the workplace (KS kompetanse: Municipality organisation in Norway offer a range of relevant courses for free relevant to communal services)

Change management is in focus to meet rising demands, and diminishing resources: involving all employees. To cope with changes it is necessary to have skills like

- Organising in pro-active manner
- Team and networking abilities across professions and units
- Co-construction
- Entrepreneurship
- Creative thinking
- Critical thinking
- Meta understanding leading to responsibility and intuitive actions

Jobs and activities can be done like in the last decade or years because of new demands.

Multiple stakeholders must be involved:

Inside, across and outside organisations – workplaces and educational institutions

If one part of an organisation changes it affects sometimes more others, or at least others must respond in an adequate manner to produce the wanted/needed outcome.

Curriculum changes certainly need such broad involvement, all levels of education from kindergarten to universities, and including stakeholders from not only policymakers, teachers and students but society in wider sense. To quote from the IFIP TC3 Torun vision:

Both Computer Science and ICT need to involve all stakeholders in education – learners, parents, policymakers, educational advisors, managers, software developers, professional trainers, teachers, tutors, and counsellors. All learners have specific needs – whether they are professional, teacher, or student learners – but their needs are often concerned with developing greater personalisation, accommodating increasingly-found practices such as ‘bring your own devices’ (BYOD).

Stakeholders supporting learning can use both CS and ICT to benefit lifetime learners, including seniors, adopting lifelong and intergenerational practices.

At the same time, differences in communities across the world are respected, accounting for language, cultural, and institutional values, including those that do not recognise a need for either CS or ICT as basic requirements; and in this spirit, this vision promotes informing through robust concepts and knowledge rather than through shallow advocacy.

The Open Torun Vision calls for a focus on five key elements – collaboration, creativity, deeper understanding, expansion, integration – which will be aided through the creation, working and reporting of taskforces – focusing on stakeholders and professional development, pedagogy, curriculum, security and other social implications, and equity. ... to consider the world of work, informal, formal and non-formal learning settings; the need to explore the integration of existing technologies as well as the application of future technologies; the need to develop producers as well as consumers.

The Open Torun Vision foresees key aspects of our knowledge and understanding being addressed, in two focal areas, with subsidiary elements under consideration. By 2017 we need to:

1. Move from consuming to innovating, creating, conceptualising, and producing using programming (CS) as well as ICT applications.
2. Deploy digital technologies to better support different interactions with different stakeholders, according to technologies selected and used (such as those with online or haptic features), accommodating institutional diversities, gender, cultural, native language, cognitive and social backgrounds.

Recognise the more developed roles of active, deep and authentic learning, involving self-expression (not only in written or oral language), problem-solving, collaborative, co-operative and group and team working using digital technologies with a reflective attitude.

- Understand more the roles of CS and ICT in effective learning occurring in informal and nonformal as well as formal and workplace settings.
- Widen professional development for all those who support training and learning using CS and ICT
- Explore hybrid education and blended models of learning, to consider flipped classrooms, MOOCs, serious games, direct instruction, video revision clips, mobile technologies, and information security.
- Investigate emerging blended models of education, impacting learning
- Link education to capacity building, training and employment, and the more ready identification of skill gaps in terms of CS and ICT.
- Identify the application, agility and sustainability of emerging technologies for education and lifelong learning.
- Match uses of computers to purpose (socio-cultural, democratic, or economic), to audience, intentions and outcomes (including assessment).
- Provide the facility to enter the information society, understanding the roles of social media in learning, the ethical challenges, and how negative uses may reduce or lessen these.