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Session INN08 Learning to Innovate – Innovate to Learn: European perspectives

ICT for Learning, Innovation and Creativity: A research perspective

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**Mission:** “to provide customer-driven support to the EU policy-making process by developing science-based responses to policy challenges that have both a socio-economic as well as a scientific/technological dimension”
• ICT is intensively being used outside E&T (business, everyday life) and is a key driver for creativity and innovation although not recognised by all

• ICT is increasingly being used within E&T and for learning & teaching
  – Positive shift from infrastructure and access to effective use of ICT in E&T
  – But little progress in use of ICT embedded in pedagogical change
  – Little systematic evidence of innovative and creative use of ICT while a wide range and high diversity of innovative and creative practices are taking place in Europe

Four ongoing studies with DG EAC Dir A (Lifelong Learning: horizontal Lisbon policies):
• Learning 2.0 part 1: The impact of SC on formal E&T in EU (2008-2009)
• Learning 2.0 part 2: Informal learning in online networks (2008-2009)
• Innovation and creativity in EU27 learning objectives (2009-2010)
• A foresight on “ICT, Learning & Innovation”: New ways to learn new skills for future jobs (2009-2010)
1. **Content**: providing greater access and diversity

2. **Creating**: supporting creation of educational content

3. **Connecting**: connecting different actors

4. **Collaborating**: supporting collaboration
1.1 Access & sharing of academic content

> 1500 videos from MIT, Stanford, Berkeley, Harvard, Princeton, and Yale
1.2 Access to a variety of learning contents

> 8348 videos, 6062 lectures, 5379 authors, 291 events
Of all active internet users:
- 70% read blogs
- 46% left a comment
- 35% started own blogs

(Universal McCann, 2009)

- Access to alternative sources of information & knowledge
- Room for personal reflections
- Space for debate
- Provision of content outside mainstream media

http://regimechangeiran.blogspot.com/
1.4 Implications: Challenging learning paradigm

- Access to information and knowledge becomes less exclusive and hierarchical

- Knowledge acquisition process is changing: from know-what to know-how and know-where

=> Re-visiting views on learning
1. Content: providing greater access and diversity
2. **Creating**: supporting creation of educational content
3. Connecting: connecting different actors
4. Collaborating: supporting collaboration
2.1 User-generated learning content

- Online community for sharing instructional videos for teachers, schools, and home learners
- About 800,000 visitors every month; 220,000 regular users and more than 54,000 videos
- Most popular: teacher rapping about the math concept of perimeter (355,000 hits)
- Teaching each other: "things you do not learn about teaching in college" (227,000 hits)
2.2: User-generated learning content (teachers)

> 1,6 million registered users - 529 articles in English – 7,796 page edits

http://math.wikia.com/wiki/Main_Page
2.3 : User-generated learning content (learners)

http://welkersswininomics.wetpaint.com/welkersswininomics/index.php/Welker's_Wikinomics

http://welkersswininomics.com/home.html
Learners and teachers become **content creators**

- Engagement & motivation rises
- Personalized information, knowledge and experiences
- Community-based quality assurance (but not for all)

⇒ **Constructionist learning paradigm: learners become co-creators of meaning**

⇒ **Empowerment of learners & teachers**
1. Content: SC providing greater access and diversity
2. Creating: SC for the creation of educational content
3. Connecting: connecting different actors
4. Collaborating: supporting collaboration
3.1 Connecting informal learners

Social Language Learning - Online!

- Learn languages online at your own pace with fun language lessons
- Connect with foreign language partners around the world

I Speak: Select language...
Get Started

I am Learning: Select language...

> 4 million members
> 220 countries
> 100 different languages

http://www.livemocha.com/

anavarrete 26 Female From Mérida Mexico
Teach: Spanish III English III
Learn: Japanese III Portuguese III French III

munna 26 Male From Hyderabad India
Teach: English III Hindi III Urdu III Gujarati III
Learn: Japanese III Arabic - Middle Eastern III Chinese - Mandarin III

> 1 million members
> 133 countries
> 115 different languages

http://www.languageexchange.org/
3.2 Connecting learners on site
3.3 Connecting teachers and students abroad

http://www.etwinning.net/en/pub/index.htm

- 69014 registered schools
- 64768 members
- 1704 projects
- 5064 schools participating
• Changing the role of learners and teachers
• Emergence of new learning networks and communities
• Lifelong learning opportunities for all learners
• New opportunities for experimentation and research

⇒ Opening up the learning realm:

• Connecting a wider range of educational stakeholders
1. Content: providing greater access and diversity
2. Creating: creation of educational content
3. Connecting: connecting different actors
4. **Collaborating**: supporting collaboration
Wikipedia

- > 14 million articles
- > 3 million in English
- ~269 language versions
- 1 million contributions
- 85,000 people contributed 5 times or more in Sept09 (Wikipedia)
- 53.6% of people editing entries over 45 (Hitwise 2007)

4.2 Collaborating at work

A leader in Web 2.0 technologies, IBM has the software, services and hardware to help businesses gain value from Web 2.0 today.

Although there are many vendors touting their Web 2.0 products, IBM is one of a very few companies that is able to provide end-to-end Web 2.0 solutions for business. Our R&D labs have produced the award winning Web 2.0 innovations that we use every day to gain greater productivity and competitive advantages and now your company can take advantage of the same benefits. The IBM Web 2.0 vision combined with an extensive list of customer success stories will gain your confidence and trust that teaming with IBM is the best choice for tapping into the benefits of Web 2.0 technologies.

http://www-01.ibm.com/software/uk/web20/
4.3 Collaborating in class

Collaborative book writing project at a secondary school in Salzburg, Austria
4.4 Implications: Learning through collaboration

- Interaction and collaboration in different ways and on different scales

- Collaborative knowledge production

⇒ Challenging the “instructionalist learning paradigm”
Creativity in Schools in Europe: A survey of Teachers

- Online survey with teachers in Europe (15 September-15 October) by European Schoolnet and IPTS, for DG EAC EYC&I

- 12,893 responses from 32 countries (EU27 plus Croatia, Former Yugoslav Republic of Macedonia, Iceland, Norway, and Turkey)

- 9,460 responses from the EU27

- Just above half of respondents from the EU27 (54.5%) come from four countries, i.e. Italy (18%), Greece (15.5%), Spain (12%) and Poland (9%)

- Preliminary results at Closing Conference of EYC&I, Stockholm, 16-17 Dec 2009
• Creativity can be applied to every domain of knowledge and to every school subject (95.5%)
• Everyone can be creative (88%)
• ICT can be used to enhance creativity in students (80%)
• Creativity does not always play a central role in the curriculum
• 6 out of 10 teachers have received training in innovative pedagogies
• 4 out of 10 have received training in creativity
• 36% have received training in ICT

⇒ Creativity as a transversal skill, and important to be developed by all

⇒ ICT as an enabler for creativity but potential of recent social technologies untapped
So…. ?

Source picture: students.ou.edu/K/Blair.K.Kelley-1/
A wide range and diversity of **creative and innovative** uses of SC & ICT exist in formal education but also in informal settings within Europe, involving many different actors, objectives and technologies.

- Uses of SC& ICT in learning can be creative and innovative but also unoriginal and conservative.

- SC & ICT seem to allow new **empowerments** for both learners and teachers, but especially giving **learners** a more active, engaging role in the learning process.

- Pushing towards innovating learning practices and re-visiting current views on ICT and Learning (Cf. four C’s of learning 2.0).

- Towards a **renewed vision** on ICT and Learning whereby learning is an interactive, social, creative, innovative and learner-oriented process, enabled by ICT, in a networked and digital society.
  - Changing roles of teachers, learners, learning pedagogies, and learning institutions (IPTS Future Learning project).
Thank you


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