If you look for creativity in schools in Europe, will you find it?

Results from a study on creativity and innovation in E&T in the Member States

Anusca Ferrari – Romina Cachia

Joint Research Centre (JRC)
Institute for Prospective Technological Studies
The European Commission’s Research-Based Policy Support Organisation
IPTS: Part of Joint Research Centre of the EC: 7 Research Institutes across Europe

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 or technological dimension”
Key Competences for Lifelong Learning, 2006/962/EC
- mother tongue; foreign languages;
- maths/science/technology; digital competence, learning to learn;
- social & civic competences; entrepreneurship; cultural awareness & expression

- Lifelong learning and mobility
- Quality & efficiency of E&T
- Equity & active citizenship
- Innovation, creativity, entrepreneurship

SWP: The Use of ICT to support innovation and lifelong learning for all, SEC(2008) 2629
ICEAC study

Creativity and Innovation in education

- 27 Member States
- Primary and secondary
- Analysis of curricula
- Experts’ interviews
- Survey with teachers
- Good practices

http://is.jrc.ec.europa.eu/pages/EAP/iceac.html
What is creativity?

Source: Csikszentmihalyi, Stenberg, Lubart, Runco
What can creativity do?

http://www.youtube.com/watch?v=QdlBJ-q-4JE
The problem with the interpretation of creativity

Limited to Arts .............. Applies to Every Subject
Pure Talent .................. Depends on Education & Training
Fun .......................... Also Hard Work
Originality ................. Both Originality & Value
No Prior Knowledge ....... Field Knowledge is Necessary
Major Breakthrough ........ Thinking Skills
Free Play & Discovery ...... Stimulation of Play & Discovery

Creativity in Education is a necessity

Creative learning
Understanding and new awareness
Focus on thinking skills
Learners empowerment
Going beyond notional acquisition

Innovative teaching
Process leading to creative learning
Focus on competences
Implementation of new methods
Use of new tools
Environment and conditions
Enablers

Policy
- Curriculum
- Assessment
- Teacher training
- Institutional support

Practice
- Pedagogies
- Culture
- Individual skills

Tools
- Technologies
- Resources
Main messages

- Creativity is mentioned in the curricula of all Member States
- Creativity features to a different extent across countries
- Innovation hardly appears
- There are no major differences according to primary and secondary schools curricula in many countries
- Creativity, Innovation and synonyms appear more often in Art-related subjects
- Creativity is often conceptualised as a ‘thinking skill’
### Relative occurrence of Creativity, Innovation and their synonyms according to subject group

<table>
<thead>
<tr>
<th>Subject group</th>
<th>Occurrence of CREATIVITY (1)</th>
<th>Occurrence of INNOVATION (2)</th>
<th>Occurrence of all Synonyms (3)</th>
<th>All terms (1)+(2)+(3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arts</td>
<td>1.66</td>
<td>0.03</td>
<td>0.55</td>
<td>2.24</td>
</tr>
<tr>
<td>ICT</td>
<td>0.85</td>
<td>0.16</td>
<td>0.13</td>
<td>1.13</td>
</tr>
<tr>
<td>Physical Education</td>
<td>0.54</td>
<td>0.01</td>
<td>0.23</td>
<td>0.78</td>
</tr>
<tr>
<td>Languages</td>
<td>0.50</td>
<td>0.01</td>
<td>0.15</td>
<td>0.66</td>
</tr>
<tr>
<td>Social Sciences</td>
<td>0.24</td>
<td>0.05</td>
<td>0.10</td>
<td>0.39</td>
</tr>
<tr>
<td>Other</td>
<td>0.28</td>
<td>0.02</td>
<td>0.06</td>
<td>0.35</td>
</tr>
<tr>
<td>Mathematics</td>
<td>0.17</td>
<td>0.01</td>
<td>0.10</td>
<td>0.28</td>
</tr>
<tr>
<td>Natural Sciences</td>
<td>0.20</td>
<td>0.02</td>
<td>0.06</td>
<td>0.28</td>
</tr>
</tbody>
</table>

Frequency of occurrences of search terms per mil words

Source: Empirica
Sample

- 80 interviews (average 3 per country)
- Educational experts (not necessarily experts on creativity)
- Respondents profiles: Inspectors, Academics, Teacher Training, Ministries of Education, Curricula development agencies

Main messages

- Creativity is constantly seen by experts as a VITAL aspect of education
- It is necessary in order to equip younger generations with new, flexible skills
- Pockets of Innovation, but lack of systemic dissemination and cross-fertilisation
- For a creative and innovative educational culture, different aspects of the system have to change in a holistic manner
Allow time for flow

http://www.youtube.com/watch?v=H_hGQuTjI3U
How to detect creativity?
How to give it time?
How to give it space in the educational agenda?

Anusca.Ferrari@ec.europa.eu
To explore the perceptions of teachers about creativity for learning and their reflection on their own teaching practices
Research Questions

Main Research Questions

- Do teachers perceive creativity as an important characteristic of education?
- Do European primary and secondary school teachers embrace creativity in their teaching?
- How is ICT used in European schools? Is it used to foster creativity?
- What kind of context and support are necessary for teachers to foster creativity in their students?

Understanding of creativity
- Opinions on creativity
- Definition of creativity
- Creativity for education

Skills & abilities
- Resources
- Assessment
- Behaviour rewarded
- Methods

ICT vs creativity
- Most used technologies
- Technologies considered important for learning

Teacher training
- Curriculum
- Educational and school culture
- Institutional support
Respondents:

- 11,473 answers from 32 countries
- 9,460 from EU 27
- Collaboration with EUN Schoolnet and Ministries

Instrument:

- Online questionnaire in 22 languages
- eTwinning
- From mid-Sept to mid-Oct 2009
- 28 close-ended questions

Respondents:

- 7,650 from EU 27
- Obligatory schooling:
  - (ISCED levels 1 and 2)
- Other biases
Do teachers perceive creativity as an important characteristic of education?
Almost nine out of ten teachers endorse a democratic view of creativity sustaining that everyone can be creative (88%).

Creativity can be applied to every domain of knowledge (98%) and to every school subject (96%)

Less percentage of agreement to the statement that creativity is not restricted to visual arts, music, drama and artistic performance (86%).
An impressive majority of teachers (95%) believe that creativity is fundamental skill to be developed in school.

Only slightly more than two-third of teachers (70%) believe that creativity can be taught and only half (50%) think it can be assessed.

One fifth of respondents believe that creativity is an inborn talent (21%).
Do European teachers nurture creativity in their teaching?
Creative learning activities are encouraged by teachers: developing thinking skills (83%); and learning how to learn (73%)

Nonetheless, only less than half of the respondents claim that play (46%) and multi-disciplinary work (41%) take place in their classroom.
Teachers reward various types of creative behaviour: ability to come up with something new (89%); curiosity and exploration (89%); and imagination (87%).

Formal tests remain the predominant form of assessment in Europe (76%).
Lack of training on creativity

Only 40% of teachers in Europe have received training in creativity

Situation largely varies between countries (higher in Slovakia, Estonia and Romania and much lower in France, Lithuania, Hungary)

60% of teachers have received training in innovative pedagogies or methods
How is ICT used in European schools?
Is it used to foster creativity?
The vast majority of European teachers (85%) claim that technology has improved their teaching.

Majority of these teachers have been teaching over 10 years.

An impressive high agreement (91%) amongst teachers that ICT can be used to enhance creativity.
Internet has become an important source of information

- I use a computer to prepare handouts and material.
- I use the Internet to access information to update my own knowledge for use in my lessons.
- I use the Internet to search for teaching material.
- I use the Internet to develop my teaching skills by being in contact with other teachers.
- I use teaching software for which the school has a license.
- I let my students use a wide range of technologies to learn (videos, mobiles, cameras, educational software, etc.).
- I use software which is freely available online.
- I use the computer to access students' results and keep track of their progress.
- Using a computer in class to present or demonstrate.
- Using the computer room.
- Asking pupils to use computers for their homework / outside school time.
- I use the computer to send assignments to students and to receive their completed assignments.
- I use digital games (including video games, online games, games that run on consoles, computers or mobile phones) in class.

Options:
- always
- often
- sometimes
- rarely
- never
Conventional ICT predominates

- Computers
- Educational software
- Videos
- Online collaborative tools
- Virtual learning environments
- Interactive whiteboards
- Online free material
- Online courses
- Music/photo/video/slide sharing sites
- Blogs
- Social networking sites
- Podcasts
- Bookmarking and tagging sites
- Digital games
- RSS feeds
- Mobile phones

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly Disagree
More than half of European teachers (54%) disagree that mobile phones could be important for learning.

Less than half of the respondents (47%) agree that digital games are important for learning and only 17% of the respondents use them as resources in their teaching.

Primary teachers use digital games as a teaching resource much more than secondary school
What kind of context and support are necessary for teachers to foster creativity in their students?
Most teachers have received teacher training

Only 23% of respondents deem to have learnt how to teach during initial teacher training

Positive correlation between teachers who have received training and their opinions and practices of creativity training.
Above half of the teachers lament a lack of resources (57%)

School needs more financial support

Respondents are also asking for more technical support (78%).

A large number of respondents (59%) maintain to have found relevant support and examples to combine Information Communication Technology (ICT) and creativity through contact with other teachers/colleagues.
Preliminary conclusions of the overall study
Creativity is relatively frequently mentioned in school curricula, but more often in Art-related subjects.

Teachers believe that everyone can be creative but are less convinced on statement related that creative is not restricted to art.

Teachers' opinions on creativity in education are much stronger than their practices.

Teachers seems to be more convinced on the link between:
- originally and creativity
- than on creativity and value -> entrepreneurial skills.
Both teachers and education experts claim that creativity is a vital aspect of education.

Education policies mention the need for creative learning, but often does not provide:
- an encompassing definition of creativity
- instructive guidelines and how it should be promoted at school
- the benefits of creativity for learning
- the link between teaching methods and creative outcomes

The way creativity should be assessed as a skill is also often not addressed. Assessment is still summative and does not allow space for creativity.
While a high proportion of European teachers understand the potential of technology for teaching, the potential of Web2.0 technologies for learning remains untapped.

Educational experts also confirmed that ICT is often approached and used in a traditional way.

Need for more formal and informal online resources which could enable teachers in their work - increasing importance of online learning environments and platforms, such as eTwinning in teachers' lifelong learning.

Need of various kinds of assistance to teachers when it comes to new technology.
Teacher training on creativity makes a difference in teachers' claims on creativity and their practices.

Training is needed focusing on:
- eradicating recurrent myths about creativity
- enable teachers to equip young generations with new skills
- new technologies
- guide teachers on how to reflect and discern which activities which take place in the classroom are more likely to encourage creativity.
Innovation hardly mentioned in curricula.

Pockets of innovation, but lack of dissemination and cross-fertilisation

Innovation in teaching methods is needed

Teaching career:
- has a low status and pay
- often publicly criticised
Questions?

Thank you for your attention

romina.cachia@ec.europa.eu