Citizens in a Knowledge Society: rethinking education from scratch.
Part 4
New assessment frameworks for new skills

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Quality standards in ICT education workshop
Belgrade, April 12, 2011.
Digital competences
# Inequality & exclusion in the Info. Society

<table>
<thead>
<tr>
<th>Person Instution</th>
<th>Self-programmable</th>
<th>Generic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connected</td>
<td>Source of innovation and value creation</td>
<td>Executor</td>
</tr>
<tr>
<td>Disconnected</td>
<td>Diamond in the rough but invisible to networks</td>
<td>Structurally irrelevant to the system</td>
</tr>
</tbody>
</table>

**Exclusion**

**Inequality**
Taking part in the network

Net

Infoxication          Filtering

Node

Knowledge          Reputation
## Digital skills in everyday life

<table>
<thead>
<tr>
<th></th>
<th>School</th>
<th>Firm</th>
<th>Government</th>
<th>Citizen</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Technological Literacy</strong></td>
<td>Acquisition, Evaluation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Informational Literacy</strong></td>
<td>Acquisition, Evaluation</td>
<td></td>
<td>Life-long learning</td>
<td>Empowerment</td>
</tr>
<tr>
<td><strong>Media Literacy</strong></td>
<td>Acquisition, Evaluation</td>
<td></td>
<td>4&lt;sup&gt;th&lt;/sup&gt; &amp; 5&lt;sup&gt;th&lt;/sup&gt; Estates, Open government, Goverati</td>
<td>Empowerment, User Generated Content</td>
</tr>
<tr>
<td><strong>Digital Presence</strong></td>
<td>e-Portfolios &amp; PLE</td>
<td>Networking, e-Portfolios</td>
<td>Transparency &amp; Accountability, Participation</td>
<td>Identity, Socialization</td>
</tr>
<tr>
<td><strong>e-Awareness</strong></td>
<td></td>
<td>Business models, Self-programming, Connected worker</td>
<td>Participation, Connected institution</td>
<td>Privacy &amp; Security, Participation, Connected citizen</td>
</tr>
</tbody>
</table>
A comprehensive definition of digital skills

- Technological Literacy
  - Get
  - Informational Literacy
  - Manage
  - Monitor
  - Identity
  - Digital Presence
  - Define
  - Network
  - Multimedia
  - Media Literacy
  - Crossmedia
- e-Awareness
Digital students, analogue institutions
Information Society and Education

Education Quality & Internet in Classroom


\[ y = 0.0653x^2 + 0.0741x + 2.4327 \]

\[ R^2 = 0.6948 \]
Students: Use of computers/Internet

Write documents
- Never: 10%
- Once a month or less: 11%
- Few times a month: 24%
- Almost every day: 17%
- (n.a.): 3%

Collaborate through Internet
- Never: 41%
- Once or twice a week: 16%
- Few times a month: 14%
- Almost every day: 10%
- (n.a.): 4%
- Once a month or less: 15%

Data from OECD (2007)
Where do students use computers/Internet

Data from OECD (2007)
Where do people learn computer/Internet?

Data from INE (2007)
Lack of resources at schools

Quality of schools' educational resources

- Shortage or inadequacy of science laboratory equipment: 16%
- Shortage or inadequacy of instructional materials (e.g., textbooks): 5%
- Shortage or inadequacy of computers for instruction: 18%
- Lack of inadequacy of internet connectivity: 9%
- Shortage or inadequacy of audio-visual resources: 17%
- Shortage or inadequacy of library materials: 14%
- Shortage or inadequacy of computer software for instruction: 21%

Data from OECD (2007)
Teaching and Internet: community

Internet use by teachers with community goals

- Communication with professionals not from the school
- Communication with other teachers from other schools
- Communication and teamwork with the rest of the faculty
- Mothers and fathers participating in classes
- Taking part in educational projects with other schools
- Teamwork between students in the classroom
- Communication with students and between them in the classroom

Teaching and Internet: communic. and info.

Teachers’ use of the Internet outside the classroom

- Other
- Communicate with the parents
- Communicate with the students
- Take part into professional discussion fora, outside the school
- Communicate with the rest of the faculty
- Create and update content for my subjects
- Communicate with other professionals not from the school
- Don’t use the Internet
- Communicate with teachers from other schools
- Manage academic/administrative stuff
- Get software I use in my teaching activity
- Be up-to-date about professional activities (conferences, calls,...)
- Search information to prepare my classes

Conclusions?

- Students look for information, communicate and collaborate through the Internet, but not *in* the classroom,

- because there are no resources – due to lack of financing, leadership at school por falta de posibilidades económicas, liderazgo en la escuela o estrategia fuera de ella –,

- Usage of the Internet in teaching is intensive in information, but scarce in communication and collaboration,

- and because teacher do not know or cannot apply ICTs in the classroom,

- despite doing everything possible – like training – and even succeed in doing it, tough *outside* of the classroom.
Education in a digital era
Conclusion

Information efficiency
Knowledge management

ICTs

No change of paradigm
No acquisition of new skills

Teaching

Learning
New educational methodologies

1. Shift towards virtuality
2. Shift towards the student
3. Shift towards the activity

- Blended learning
- Competences
- PLE
## The (e-)portfolio (I)

<table>
<thead>
<tr>
<th>Points</th>
<th>Required items</th>
<th>Concepts</th>
<th>Reflection/critique</th>
<th>Overall Presentation</th>
</tr>
</thead>
<tbody>
<tr>
<td>90-100</td>
<td>All required items are included, with a significant number of additions.</td>
<td>Items clearly demonstrate that the desired learning outcomes for the term have been achieved. The student has gained a significant understanding of the concepts and applications.</td>
<td>Reflections illustrate the ability to effectively critique work, and to suggest constructive practical alternatives.</td>
<td>Items are clearly introduced, well organized, and creatively displayed, showing connection between items.</td>
</tr>
<tr>
<td>75-89</td>
<td>All required items are included, with a few additions.</td>
<td>Items clearly demonstrate most of the desired learning outcomes for the term. The student has gained a general understanding of the concepts and applications.</td>
<td>Reflections illustrate the ability to critique work, and to suggest constructive practical alternatives.</td>
<td>Items are introduced and well organized, showing connection between items.</td>
</tr>
<tr>
<td>...</td>
<td>...</td>
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<td>...</td>
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<td>...</td>
<td>...</td>
<td>...</td>
</tr>
</tbody>
</table>
## The (e-)portfolio (II)

<table>
<thead>
<tr>
<th>Item</th>
<th>Deficient</th>
<th>Fair</th>
<th>Good</th>
<th>Excellent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spreadsheets</td>
<td>There is a spreadsheet, but does not work</td>
<td>The spreadsheet shows data, but uses no formulas</td>
<td>The spreadsheet calculates with formulas</td>
<td>Presence of complex formulas and graphics</td>
</tr>
<tr>
<td>Web search</td>
<td>Results listed do not belong to the topic</td>
<td>Results listed come from Wikipedia and dictionaries</td>
<td>Different and original sources of information</td>
<td>Information comes from official/accredited sources</td>
</tr>
<tr>
<td>Video</td>
<td>No video</td>
<td>Video without editing or transformation.</td>
<td>Video is edited and includes credits and other info.</td>
<td>Video is optimized for web sharing and being played in mobile devices.</td>
</tr>
<tr>
<td>...</td>
<td>...</td>
<td>...</td>
<td>...</td>
<td>...</td>
</tr>
</tbody>
</table>
Open education

- Open content and open educational resources (OER)

- Open credit

- Massive Open Online Courses (MOOC)

- Edupunk and the Open Syllabus
The PLE

- e-Lists
- Blogs
- Journals
- Twitter
- Delicious
- YouTube
- Slideshare
- Flickr
- News
- Other

About me

Gmail for GAApps

Works Repository

Bibliograph. Manager

Blog (ICT4D)

Blog (SociedadRed)

Wiki

Lifestream

Web Analytics

Legend:

- Apps/services: inbound
- External service, own domain
- Spaces in personal website
- Area of own domain
- Apps/services: outbound
Formality in education

Curriculum-based
- Formal: A subject in a University Degree
- Informal: Learning a topic in a library or a website

Goal-set
- Planned: A conference or a workshop on a current topic
- Just in time: Something you learnt from your colleagues at work

Structured
- Self-taught / autodidactic

Serendipitous
From formal to open social learning

Syllabus

Formal
- S1
- S2
- S3
- S4
- S5

Open Formal
- O1
- S2
- O3
- S4
- S5

Non-Formal
- S2
- S5

Informal
- I1
- I2
- I3

Self-taught / autodidactic
- I1
- I2
- O3
- I4
- O5

Translearning
- S1
- I2
- I3
- O4
- S5

Open Social Learning
- S1
- O2
- O4
- S5

PLE
- I1
- I3
- I4
Learning ecosystems

- Social Component
  - Web 2.0 open spaces
  - Learning Management System / Virtual Learning Environment
  - Personal Learning Environment (PLE)
  - e-Portfolio

- Teaching/Management Component
  - Open Education in SNS
  - Classroom /subject Blogs
  - Classroom /subject Twitter
  - Classroom /subject Aggregators

- Learning/Personal Knowledge Management Component
  - Social Networking Sites
  - Blogs, Wikis,
  - Social bookmarks...
  - Repositories

- Assessment Component
  - on-LMS Virtual classrooms
  - Institutional repositories
  - Monitoring tools

- Own Blog, Wiki...
  - Own Bibliographic Manager,
  - Bookmarks...
  - Own Repository
Quality standards
Quality standards in ICT education

External World

Verifying
Moderating
Accредiting
Certifying

Planning
Assessing
Recording

Recognising
Reflecting
Presenting

Learner
Quality standards in ICT Edu. for inclusion

Output

Employability

e-Inclusion

Outcome

Empowerment

Inclusion
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