ΨΗΦΙΑΚΟΙ ΠΟΛΙΤΙΣΤΙΚΟΙ ΠΟΡΟΙ ΚΑΙ ΥΠΟΔΟΜΕΣ ΓΙΑ ΤΗ ΜΑΘΗΣΗ ΚΑΙ ΤΗΝ ΕΚΠΑΙΔΕΥΣΗ
DIGITAL CULTURAL OBJECTS AND INFRASTRUCTURES FOR EDUCATION AND LEARNING

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- ISO JTC1 SC36 “Learner Mobility Achievement Information”

- Convener TC48-WG3, Hellenic Mirror Committee – ICT for Learning, Education, and Training
New skills and knowledge

Facts

• evolving demand for new skills and knowledge
• growing skills mismatch key problem of the job markets for the majority of large economies of the planet

Questions

• What skills and knowledge do we need to survive and prosper in the changing world?
• How can these skills be acquired?
WEF top 2020 skills

**In 2020**
1. Complex Problem Solving
2. Critical Thinking
3. Creativity
4. People Management
5. Coordinating with Others
6. Emotional Intelligence
7. Judgment and Decision Making
8. Service Orientation
9. Negotiation
10. Cognitive Flexibility

**In 2015**
1. Complex Problem Solving
2. Coordinating with Others
3. People Management
4. Critical Thinking
5. Negotiation
6. Quality Control
7. Service Orientation
8. Judgment and Decision Making
9. Active Listening
10. Creativity

Source: Future of Jobs Report, World Economic Forum
## Society and Economy Transformation

<table>
<thead>
<tr>
<th>INDUSTRIAL SOCIETY / ECONOMY</th>
<th>KNOWLEDGE BASED ECONOMY</th>
<th>WISDOM BASED SOCIETY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economy and society dominated by mass-production manufacturing based on intensifying division of labor</td>
<td>Economies directly based on the production, distribution and use of knowledge and information</td>
<td>Society based on (collective) wisdom for common good, alongside with new models of production &amp; sharing</td>
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</tbody>
</table>
The 21st Century Learner
Key areas of change in education
Learning environments and pedagogy

- Transition from competitive to collaborative learning processes
- Focus on self-development & self-guidance, collaborative design of learning process & content to be explored
- Personalized learning combining
  - Learning in virtual environments (online courses, virtual reality lectures, social & AR simulators etc.)
  - Practice-based learning in real-life settings
  - Peer-based learning (F2F & online) with mentors & community
- Learning built around real-life problems & challenges rather than subjects
- Environment for physical exercises & interaction, emotional / artistic interaction etc.
Hierarchical Framework for Learning

1. Educational Content
   - Learning Objects
   - Educational Metadata (EM)

2. Learning Activities
   - Educational Content
   - LAs Design and Delivery

3. Educational / Training Courses
   - Learning Activities
   - Course Design and Delivery

4. Educational / Training Programmes
   - Educational Courses
   - BL / Virtual Classrooms
Enabling infrastructure & artefacts

Content: Learning objects

Storage: Learning repositories

Delivery: Learning portals, Learning Management Systems

Metadata: Learning Objects, Metadata

Learning Design

Interoperability

Standards & Specifications

Digital Repositories
“any entity, digital or non-digital, that may be used for learning, education or training, [IEEE] + information describing this use”
An asset, not Learning Object yet...
... becomes a LO (asset in context)

Discover the mysteries of amazing chameleon molecules!
Last Modified: 01/02/2011

Photoscientists detect the chemical transformations of the so called ‘photochromic’ molecules, some peculiar molecules whose colour changes depending upon the colour of the light shed on them.

Keywords: Photochemistry, Femtochemistry, Photochromism, Isomerisation, Electrooptics, Reaction dynamics

What exactly is light?
Does colour really exist?
What are the isomers of carbon?
How does matter interact with light?

About
Research innovation
Historical background
The "face" of Science: Let's meet the scientists!
Links with school science
Editing team

Resources
Click on a keyword or a term of the exhibit and learn more by exploring:
Los: Content and Context

**Content**: Atomic (assets) and aggregated resources

**Context**: Metadata describing its use for enabling share and re-use

Content organization
IEEE Learning Object Metadata
• Sequencing and navigation rules
  - how learners are supposed to browse the branches of a learning package and whether their navigation should respect any precondition or conditional branching rule.

• Metadata
  - information about the content at several levels of granularity

• Tracking
  - how the content communicates with the host system to keep track of learner's performances

• Packaging
  - how content may be packaged into a transferable ZIP file which it calls its Package Interchange Format
Bringing Culture to Education

We are Europe's platform for digital cultural heritage,
Contributions to Europeana
Contribution process
Europeana Interfaces

REST API enables users to filter records by a variety of data fields, from date and creator, to media type and size.

Europeana LOData service allows users to explore, access, and download metadata through our SPARQL endpoint.

Europeana OAI-PMH service supports users to harvest the entirety, or selection of all Europeana metadata.

Europeana Annotations API allows users to generate, update, and retrieve annotations for objects in our collections.
The Photodentro National Aggregator
Photodentro Architecture
Photodentro Aggregator architecture

**Ingestion layer**
processes metadata from various external sources

**Collection Management Layer**
manages the collections that are to be aggregated in the Federation and provides an environment for their metadata enrichment

**Aggregation Layer**
where the metadata harvesting, validation, and storing take place

**Photodentro Web portal**
provides general services to portal users as well as access to the resources of various repositories in a uniform way
The Workflow

Harvesting, Delivery → Import, Parsing, Indexing → Versioning → Semantic Mapping → Value Mapping, Normalization → Enrich → Export, Publish

Delivered Data → Structured Indexed Data → Data with reapplied enrichment → Interoperable Semantics → Interoperable Structure → Europeana Enabled Data

Presentation & Search
Analysis & Statistics
Quality Control
Re-iterate
ΧΩΡΗΓΙΚΟ ΜΝΗΜΕΙΟ ΛΥΣΙΚΡΑΤΟΥΣ-1851

ΓΕΝΙΚΑ ΣΤΟΙΧΕΙΑ

ΤΙΤΛΟΣ
Χωρηγικό μνημείο Λυσκράτους-1851

ΠΕΡΙΕΧΕΙΜΑ
Στο φωτογραφικό τμήμα του Αρχείου Καλλιτεχνών, ένας πλούσιος καταλόγος φωτογραφιών, εκφράζει την καμπή επίδραση καταγεγραμμένων αντικειμενικών στιγμών. Διαβάζουμε την καμπή επίδραση καταγεγραμμένων αντικειμενικών στιγμών, που χαρακτηρίζουν τον χαρακτήρα της αρχαίας καλλιτεχνικής τέχνης, βάσει εκμετάλλευσης αναπτυσσόμενης της καμπής επίδρασης της αρχαίας καλλιτεχνικής τέχνης. Ωστόσο, η καμπή επίδραση καταγεγραμμένων αντικειμενικών στιγμών μεταβαίνει σε καμπή επίδραση καταγεγραμμένων αντικειμενικών στιγμών, που χαρακτηρίζουν τον χαρακτήρα της αρχαίας καλλιτεχνικής τέχνης, βάσει εκμετάλλευσης αναπτυσσόμενης της καμπής επίδρασης της αρχαίας καλλιτεχνικής τέχνης.

ΑΕΤΕΣ ΚΛΕΙΣΗ
Αρχείο / Καλλιτεχνικές / Πλατεία Καλλιτεχνών

ΣΥΝΕΧΕΙΑ ενός Άξονα Αρχαίας Αθήνας

Αρχείο / Καλλιτεχνικές / Πλατεία Καλλιτεχνών

ΣΤΟΙΧΕΙΟ ΚΟΙΝΟΥ

ΕΠΙΚΟΙΝΩΝΙΑ

http://photodentro.edu.gr/culture/18526/7680

ΤΑΞΙΝΟΜΗΣΗ

ΩΡΙΜΑΚΙΚΗ ΚΑΤΑΘΕΣΗ

Αρχείο Εθνικής Πλατείας Καλλιτεχνών και Τραγωδίας της Αθήνας / Καλλιτεχνικές / Πλατεία Καλλιτεχνών / Επικοινωνία / Γενικά Αρχείο / Επικοινωνία / Ταξινόμηση

ΣΥΛΛΟΓΙΚΑ ΑΚΙΝΗΤΑ / ΕΠΙΚΟΙΝΩΝΙΑ

ΛΟΓΟΣ ΜΕΤΑΧΟΥ ΑΝΤΙΠΑΡΟΔΙΟΥ

http://photodentro.edu.gr/culture/18526/7680
Teaching with Europeana

Implementation of "Letters and postcards from war times" (SOI-RO-15)

This Learning Scenario was created by Haasshoff Schamberl, Europeana Ambassador for Malta and implemented by Emilia Alcain from Romania. About the Implementation: The implementation lasted for 3 lessons. I adapted it to my situation and the subject I teach. I have chosen almost the same category of students aged 11-12...
The Historiana case

Historiana offers free historical content, ready to use learning activities, and innovative digital tools made by and for history educators across Europe.
The role of postcards in World War 1
How far do postcards reveal what happened in World War 1?

Ineke Veldhuis-Meester

This activity asks students to look at the different ways the war is presented by the postcards that both soldiers from the front and their family and friends from home sent each other. These postcards enable them also to have a look into the daily lives of ordinary people. They mirror the mood of the troops and the nation; by matching the message and mood presented in the postcards with the phases of the war students can detect when the postcards are sent, and how they reflect the course of the war or what the home front should be told. Students will discover that postcards are also a propaganda tool like recruitment posters. Postcards can take different forms like drawings, cartoons, photographs and combinations of these; Students can get an insight in values and habits of the world of 1914-1918.

Downloads

Teacher material

- Lesson Introduction

- Lesson Introduction

- Lesson Plan

- Lesson Plan

Student material

- Student Worksheet

- Student Worksheet
The Historiana Activity Builder

Create your e-Learning Activity

You are not logged, you can create an Activity but you can't save it.

Drag and drop the building blocks of your choice and put them in the order you want. Click pencil to edit.
Europeana for Education & Learning

Set up a Europe-wide structured dialogue between policymakers, cultural heritage institutions and educators to improve access

Prioritise the provision of ‘Fit for Education and Learning’ content by cultural institutions and ministries

Emphasise the development of inclusive and accessible digital learning resources

Promote open licences and improve access and re-use conditions that underpin education and learning

Learning from the past, designing our future!!
Thank you!

DR. CLEO SGOUROPOULOU