Aspect

Adopting Standards and Specifications for Educational Content

How teachers responded to using content specifications such as SCORM and Common Cartridge

Results of the ASPECT work with 40+ teachers from Belgium, Lithuania, Portugal and Romania.

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And the collaboration of José Moura-Carvalho (DGIDC, Portugal), Delia Oprea (SIVECO, Romania) and Eugenijus Kurilovas (ITC, Lithuania)
Tests with teachers (in real contexts) to check implementation of **standards and specifications** on **LRE content** leads to greater interoperability and cross-border re-use of the content.
Tests: why / how / who

Discovery:
- Resource in LRE and Google – found? time?
- Search: Use of tagging, keywords, favourites
- ...

Reuse:
- Trust: tagging, favourites, colleagues
- National resources found?
- ...

Packaging:
- Use of “Non packaged”, SCORM and Common Cartridge content (Moodle)
- ...

Tests - Discovery
1 _LRE_vs_Google_tests
2_questionnaire_1
3_lesson_plan
4_questionnaire_2
5_exercises
6_questionnaire_3
7_open_questions

Tests - Reuse
Google form - test
Moodle test

Tests - Packaging

National Workshops:
- Gent, Sat 3 Oct 2009
- Lisbon, Sat 10 Oct 2009
- Vilnius, Sat 24 Oct 2009
- Bucharest, Sat 31 Oct 2009

 Aspect LRE (1st ed)

Aspect LRE (winter edition)
Online testing (Mar 2010)

Aspect LRE (spring edition)
Summer workshop (May 8 2010)

Final reports
The Learning Resource Exchange Repository (LRE):

- http://lreforchools.eun.org
- open educational resources and assets from many different countries and providers, including 16 Ministries of Education
- Many ~ 140 000 resources + assets open to all.

Aspect version of the LRE

1. closed portal
2. contains content from 30 providers and contains > 200 k resources and assets
3. it has been adapted to support the LREv4.0 application profile
4. automatically translated metadata available in 6 languages
5. integrated SCORM player and Common Cartridge platform
Educational Publishing Futures - A strategic seminar
Brussels, Belgium – Feb 18, 2011
Aspect - Learning Standards – Users view
Tests: why / how / who

<table>
<thead>
<tr>
<th>BE</th>
<th>PT</th>
<th>LT</th>
<th>RO</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Men</td>
<td>7</td>
<td>5</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Women</td>
<td>6</td>
<td>6</td>
<td>7</td>
<td>9</td>
</tr>
<tr>
<td>Total</td>
<td>13</td>
<td>11</td>
<td>11</td>
<td>11</td>
</tr>
</tbody>
</table>

* Science/Maths/IT teachers...
* ...of students: 7 – 21 yrs old
* Native lang + en (+1)

~ 40 yrs old

> 10 years experience
Use of PC:
* 90% > 1h, 60% > 2h
* men ~ women
* LT > PT > RO > BE

IT knowledge:
* 65% advanced, ~ 50% v. advanced
* men ≥ women
* LT ~ PT > RO ~ BE

OS:
* ~ 90% Know / Want to know
How often do you prepare teaching materials using...?

- *Never*
- *Annually*
- *Monthly*
- *Weekly*
- *Daily*

Materials used:
* > 80% texts, pictures, tests, presentations
* simulations: 65% + 35% ~ 100%
* lesson plans: 75% + 15% ~ 90%

Interaction:
* > 60% feedback yes, 95% sometimes
* 95% shared materials
* 90% made materials from scratch,
* 100% used materials from web
* 95% edited materials from web

Materials from web:
* ~ 90% weekly at least!
**Google**: > 70% once/month, 55% once/week

- LRE in Oct 09: Only ~30% PT once.
- LRE in Mar 10: ~ 50% Once/month
- LT ~ 90% 1/month, >50% 1/week
- LT >> RO > BE > PT
Test 3: Content packaging

• Task 1: lesson plan in Moodle x 4:
  1) Using non-packaged content
  2) Using the entire SCORM
  3) Using an entire IMS CC package
  4) Picking up parts from the IMS CC package

• Task 2: digital rights management – non-free resources.

• Task 3: Benefits of SCORM and IMS CC packages
Thermodynamics is involved with the study of the macroscopic properties of matter arising from the fact that it is made of a very large number of particles. The basic concepts in THERMODYNAMICS will be introduced through a simulation of the simplest system: an IDEAL GAS that occupies a region of volume V.

An ideal gas is composed of a large number of particles that move continuously, suffering elastic collisions between them and with the container walls.
Termodinâmica Scorm

Contents

- Thermodynamics
  - Introduction
  - Pressure
  - Temperature
  - Internal Energy
  - Heat
  - Work
  - First Law
  - Entropy
  - Velocity Distribution
  - Specific Heat
IMS Common Cartridge
Consider two systems A and B made respectively. System A possess a greater internal energy. System B has zero internal energy. We put systems A and B in thermal contact. What is the final temperature in both systems?

- The final energy of system A is greater than the initial energy.
- The sum of the final energies of system A and system B is equal to the initial energy of A.
- The energy lost by A is less than the initial energy of A.

API Key: 358fa5c0958356829725d8806ef5ba0e
Generate HTML

Embed:
<iframe src="http://www.common-cartridge.com/cartridges/free_236" width="600" height="600" frameborder="0" scrolling="no"></iframe>
Integrated into VLE

Embedded in VLE
Evaluation methodology

• Data gathered with mix-method approach, so results would complement each other.
  – Online Surveys after each task
  – Interviews with teachers
  – Observation

Caveats:

sample of teachers small (n=46), above average ICT users, highly motivated and influence of chosen VLE on results.
Packaged content

Level of difficulty

<table>
<thead>
<tr>
<th>Normal webpage</th>
<th>SCORM package</th>
<th>IMS Common Cartridge package</th>
<th>Taking parts of an IMS Common Cartridge package</th>
</tr>
</thead>
<tbody>
<tr>
<td>20%</td>
<td>16%</td>
<td>34%</td>
<td>36%</td>
</tr>
<tr>
<td>36%</td>
<td>41%</td>
<td>39%</td>
<td>41%</td>
</tr>
<tr>
<td>41%</td>
<td>34%</td>
<td>18%</td>
<td>9%</td>
</tr>
</tbody>
</table>

Benefits

<table>
<thead>
<tr>
<th>Moodle</th>
<th>SCORM</th>
<th>IMS CC</th>
<th>IMS CC pieces</th>
</tr>
</thead>
<tbody>
<tr>
<td>5%</td>
<td>7%</td>
<td>5%</td>
<td>7%</td>
</tr>
<tr>
<td>45%</td>
<td>66%</td>
<td>57%</td>
<td>50%</td>
</tr>
<tr>
<td>50%</td>
<td>25%</td>
<td>39%</td>
<td>43%</td>
</tr>
</tbody>
</table>

- LT > PT ~ RO > BE
- * > 75% even BE IMS CC pieces
- * > 90% IMS CC & SCORM

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What is your interface preference if...

- Web page: 34%
- SCORM Player view: 11%
- Common Cartridge player view: 16%
- SCORM package in Moodle: 50%
- IMS Common Cartridge package in Moodle: 50%
- I think they are basically the same and I don't care which one I use: 25%

Options:
- Blue: ...you are just showing the materials to the students in your class?
- Red: ...you are going to teach an entire online course?
- Green: ...you are giving them online homework/extra credit work?
Results

• Teachers were generally very excited about the *possibilities* of IMS Common Cartridge

• This was due to 2 issues:
  – Re-Use of materials in their on LMSs have become easier (In moodle, you can edit as you like, add, remove or alter)
  – Icodeon CC platform’s functionality of being able to embed parts of the package into blogs, social media, web pages…
Would you use it?

Would you prefer?

- Normal web pages: 84%
- The SCORM Packages: 9%
- The IMS Common Cartridge packages: 7%

(A bar chart showing usage of SCORM and IMS CC, with a pie chart indicating preference)
Would you use it?

~ 100% of the teachers said that if high quality educational resources would be available in SCORM/ IMS Common Cartridge format, they would use them.

BUT
- these are above average teachers and they still need training.
- Moodle bias (“better” dealing with CC?) → if SCORM packages could be separated into its components easily, they would like SCORM.
Comments from teachers and content providers

Packaging

http://www.aspect-project.org/node/88
More information..

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Dank u! - Merci!