Conception and implementation of rich pedagogical scenarios through collaborative portal sites: clear focus and fuzzy edges

ICOOL dec 2003

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Code: icool-03
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1. Pedagogical Design issues

1.1 The problem with reproductive learning

Traditional lecturing

IMS/Scorm e-learning
1.2. The problem with the "let’s do projects" answer

Traditional learning by projects

- Students are lost
- How??

- Vague ideas
- Can’t formulate goals
- Students have trouble with research designs
- Can’t relate data to concepts
- Can’t relate concepts
- Can’t link concepts and data to theory

Knowledge
1.3. A possible solution

- Scorm RLOs
- Tutorials on the web
- Forum messages
- MIT OCW
- Powerpoint slides
- Books

Structured activity-based learning: orchestration + guidance

How? -> MORE ....
2. The architecture of structured activity-based learning

2.1 Structured socio-constructivist pedagogical scenarios

- Open ended & “rich” socio-constructivist designs are more effective if individuals and groups have to evolve within somewhat specified scenarios

![Diagram of the architecture of structured activity-based learning]

- freedom
- construction
- open collaboration
- control & evaluation
- structure scaffolding
- guidance

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• Scenarios are sequences of activity phases within which group members do tasks and play specific roles
• This *orchestration* implies organizing workflow loops

... this is just the “ur-loop” ... other variants!
2.2. A Note on the theoretical foundations

Socio-constructivist + a pinch of behaviorism

- **Behaviorism**
  - (reach knowledge objectives, feedback, etc.)

- **Socio-constructivism(s)**
  - (construct)

- **Social cognition**
  - (interact with others)

- **Situated & shared cognition**
  - (interact with the situation)
3. The tools and the instructional implementation

- **Transmissive pedagogies**
  - line by line...
  - previous
  - next
  - repetition
  - circular files

- **Activity-based pedagogies**
  - collaboration
  - authentic tasks
  - living documents

- the computer is merely a facilitating structure, a thinking, working & communication tool
- Most student and teacher activities should be supported by computational tools and lead to new “contents”
3.1. Let’s use C3MS Portals!

**Community, Content, & Collaboration Management Systems**

- **Story engine** ("stories, logs") + annotations
- Calendar
- Forums
- Web links mgmt.
- Download mgmt.
- Administration
- Indexation + search
- authentication
- ... many other tools

- **Integration** of most applications (authentication, interfaces,...)
- **Plug-in architecture**! (YOUR organization can write modules)
### 3.2. A few available bricks

<table>
<thead>
<tr>
<th>Function</th>
<th>C3MS modules (tools of the portal)</th>
</tr>
</thead>
</table>
| **Content management**   | News engine (including a organization by topics and an annotation mechanism) - Content Management Systems (CMS)  
Collaborative hypertexts (Wikis) - Image albums (photos, drawings, etc.) - Glossary tool or similar - Individual weblogs (diaries) |
| **Knowledge exchange**   | News syndication (headlines from other portals)  
File sharing  
(all CMS tools above)                                                                                                               |
| **Exchange of arguments**| Forums and/or new engine  
Chats, ......                                                                                                                   |
| **Project support**      | Project management modules,  
Calendars, ......                                                                                                           |
| **Knowledge management** | FAQ manager - Links Manager (“Yahoo-like”)  
Search by keywords for all contents  
“top 10” box, rating systems for comments  
“What’s new” (forum messages, downloads, etc.), ...... |
| **Community management** | Presence, profile and identification of members  
Shoutbox (mini-chat integrated into the portal page)  
Reputation system  
Activity tracing for members  
Event calendar  
News engine, ...... |
3.3. C3MS portals & educational scenario scripting

Projects

Activities (scenarios)

Characteristics

Stages
- stage 1
- stage 2
- stage 3

Elementary activities (phases)

C3MS bricks (software types)

Software modules

Pedagogic Strategies

+ community & integration tools !!
### Planning example: Study wildlife of Mauritius

<table>
<thead>
<tr>
<th>PROJECT</th>
<th>Activities (scenarios)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Teach portal to students</td>
</tr>
<tr>
<td>2</td>
<td><strong>Make a glossary</strong></td>
</tr>
<tr>
<td>3</td>
<td>Find research subjects</td>
</tr>
<tr>
<td>4</td>
<td>Make a research plan</td>
</tr>
<tr>
<td>5</td>
<td>Field trip</td>
</tr>
<tr>
<td>6</td>
<td>......</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>GLOSSARY activity (scenario)</th>
<th>Stages</th>
<th>Simple activities</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>Participants think about terms</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>An alphabetic list of terms is entered</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Students search and share links</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>Work is synthesized and combined</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>Teacher moderates</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>Final definitions</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Simple activity</th>
<th>Description</th>
<th>Available C3MS modules</th>
</tr>
</thead>
<tbody>
<tr>
<td>CoEdit</td>
<td>make collaborative documents</td>
<td>Wiki (phpWiki portal module), CMS (EzCMS module)</td>
</tr>
<tr>
<td>BrainStorm</td>
<td>Generate Ideas</td>
<td>Wiki, News Engine, Forums, Bulletin Boards</td>
</tr>
</tbody>
</table>
Implementation example of the Glossary activity

( previous step: learn portal )

<table>
<thead>
<tr>
<th>Stages</th>
<th>Tools</th>
<th>Instructions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Suggest terms</td>
<td>Wiki (‐ coll. hypertext)</td>
<td>Each student must suggest 3 terms and enter them</td>
</tr>
<tr>
<td>2 Provisional list of terms</td>
<td>Wiki</td>
<td>Together in class we clean up the list</td>
</tr>
<tr>
<td>3 Search and sharing of results</td>
<td>Google, Links manager</td>
<td>Each student must provide 4 links and make comments to 2 other</td>
</tr>
<tr>
<td>4 Raw information is synthesized and</td>
<td>Wiki</td>
<td>Each student must enter 2 definitions, make links from “his” definitions to</td>
</tr>
<tr>
<td>combined</td>
<td></td>
<td>others and modify others</td>
</tr>
<tr>
<td>5 Teacher moderates</td>
<td>News engine</td>
<td>Teacher will give feedback in an article</td>
</tr>
<tr>
<td>6 Students produce final definitions</td>
<td>Wiki</td>
<td>Students can make final modifications</td>
</tr>
</tbody>
</table>

( next step: find research subjects )
3.4. C3MS and support for creativity “elements”
3.5. The C3MS object economy

TecfaSEED catalog

- Define scenarios
- Innovations from the “field”

Teacher’s portal

- Community, fun & integration tools
- Selection & configuration

Scenarios and modules

Extra modules

Program

Download/plug (& adapt)

Standard modules

Installation + configuration

C3MS portalware

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4. Conclusions: To hell with false learner-centrism!

4.1 Hey we are teacher-centric too!

Teacher as orchestrator
- designs the environment
- designs the global project
- designs flexible tasks

Teacher as monitor
- makes audits
- reads blogs
- controls project plans
- evaluates
- gives feedback

Teacher as facilitator
- answers questions
- writes tutorials
- makes examples
- provides links

..... (now try to do this without ICT!)
4.2. LE design = sharp focus and fuzzy edges

- central teaching instrument is the “news” tool (central in the display) or a special "project tool" (like pScenario)
- for each task there is one (or more) central tool (application)
4. Conclusions: To hell with false learner-centrism!

4.3. LE design = landscaping & conditioning

- authentic projects
- fun & emotional support
- sharing & competition imitation & confrontation
- structured & feasible projects
- affordable work & thinking tools
- responsive environment: reification of work, teacher feedback peer interactions
- awareness: who is here, does what what is new ...
- heart beat rhythm
- TASKS + “life”
4. Conclusions: To hell with false learner-centrism!

Thank you for listening.

Thank you for inviting me.