Educational technologies: ICT across the curriculum

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1. Why cross-curricular "stuff"? A few arguments

- Complexity requires teaching with projects
- Society needs interdisciplinary skills
  - A chance to develop synergies between teachers
- Authenticity is higher
  - Better teacher motivation
- Projects may lead to "deep" know-how
  - Better student motivation

Society needs project skills
2. When does it make sense?

ICT for interdisciplinary "eContents"?

Yet another subject matter to teach!

ICT is a tool for:
- orchestration
- management
- facilitation

Interdisciplinary projects
Pupils must:
- define goals
- find information
- think
- argue
- write, share

Pupils learn doing projects

Pupils learn "active" ICT

Pupils build "deep" knowledge

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3. There is a problem

Teachers are not trained to do projects

Teachers are not trained to use ICT as work tool

Organize collective "Internet activities" and encourage teachers to participate

Failure rate is high

Refusal rate is very high

Cross-curricular project-based learning with ICT can only be introduced gradually

it’s difficult
4. So what are so called "Collective Internet activities"?

- "Organized" by some consortium (usually with different stakeholders)
- Often an interdisciplinary topic
- Often a set of various activities & various levels of participation
- Teachers can participate with their class (on their own decision)
5. Case study 1: "Terre des hommes": water

url: http://tecfaseed.unige.ch/tdh03/

• Stakeholders: NGO, a few teachers, TECFA (my group)
• Goal: Work on issues related to “water”

Main activities:

1. Queries (enquêtes) or react to news (réagir à l’actualité)
2. Photo and picture albums (+ comment)
3. Make a quiz or do a quiz
4. Add links (+ comment)
5. Enter a glossary item, a quotation or a poem
6. Free discussion

Teacher-teacher activities:

• Forums
• Scenario definitions (enter a scenario)
6. Case study 2: "Educapoles"

url: http://tecfaseed.unige.ch/educapoles/

- Stakeholders: NGO, a few teachers, TECFA (my group)
- Goal: Follow and interact with a research expedition to the south pole

Main activities:
1. suggest experiments to relays on the ship (a few pupils)
2. request data
3. ask questions

Teacher-teacher activities:
- Forums
7. Summary I: Internet activities also educate teachers

(3) Teachers who can "do" effective projects
Pupils learn project work and some subject matters

(2) Teachers who will get return on investment
Pupils learn something (either ICT or subject matters, including curricular ones)

(1) "First time "Teachers (may not be effective, will do better next time)
Pupils a learn a little ICT, e.g. buttons of the forums
8. Summary II: The model for "Internet activities"

A small group of motivated teachers

"Content enthusiasts"

Different forms of participation

Technical and pedagogical support (NOT directives, NO "officials")

A "hot" topic or a "local" topic (fauna, buildings, history, spring time, weather data)

no generalizations please, solutions should emerge in context!
9. Summary III: The realistic short term goals

Make sure that pupils learn how to **work and think** with ICT (not just click buttons)

Make sure that pupils learn to use the keyboard

Familiarize pupils with the idea that they can be **producers**!

Make sure that **YOU** (teachers) start thinking about "story-boarding" & try to have more fun teaching

Produce **more** than you consume
10. So what kind of Infrastructure?

- Walls of the classroom (collective class working memory)
- 1-4 computers in the classroom
- Little learning contents
- A project community
- Something to study

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10. So what kind of Infrastructure?

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