

Self Regulating Learning with Cyber-Class

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A. In our primary schools, the teaching of mathematics is often confronted to two pedagogical realities:

1. A **relatively significant number of pupils**. Effective time for the interaction between teacher and learners is reduced.
2. The **usage of a common book (Intermath)**. It was designed for all our linguistic sections by a special working group.

But even in the Intermath teacher's book, the learning strategies, for obvious reasons of complexity, are seldom analyzed.

Due to the possible differentiation of the knowledge delivery (e.g.: book, computer, interactive board, pupils and teachers!), I think that we must try to find out, in order to adapt the media, which are the two or three most important learning strategies employed by pupils of our primary school when they are solving math's problems*.

*the word problem is taken on a broad sense (as any situation of mathematical research).

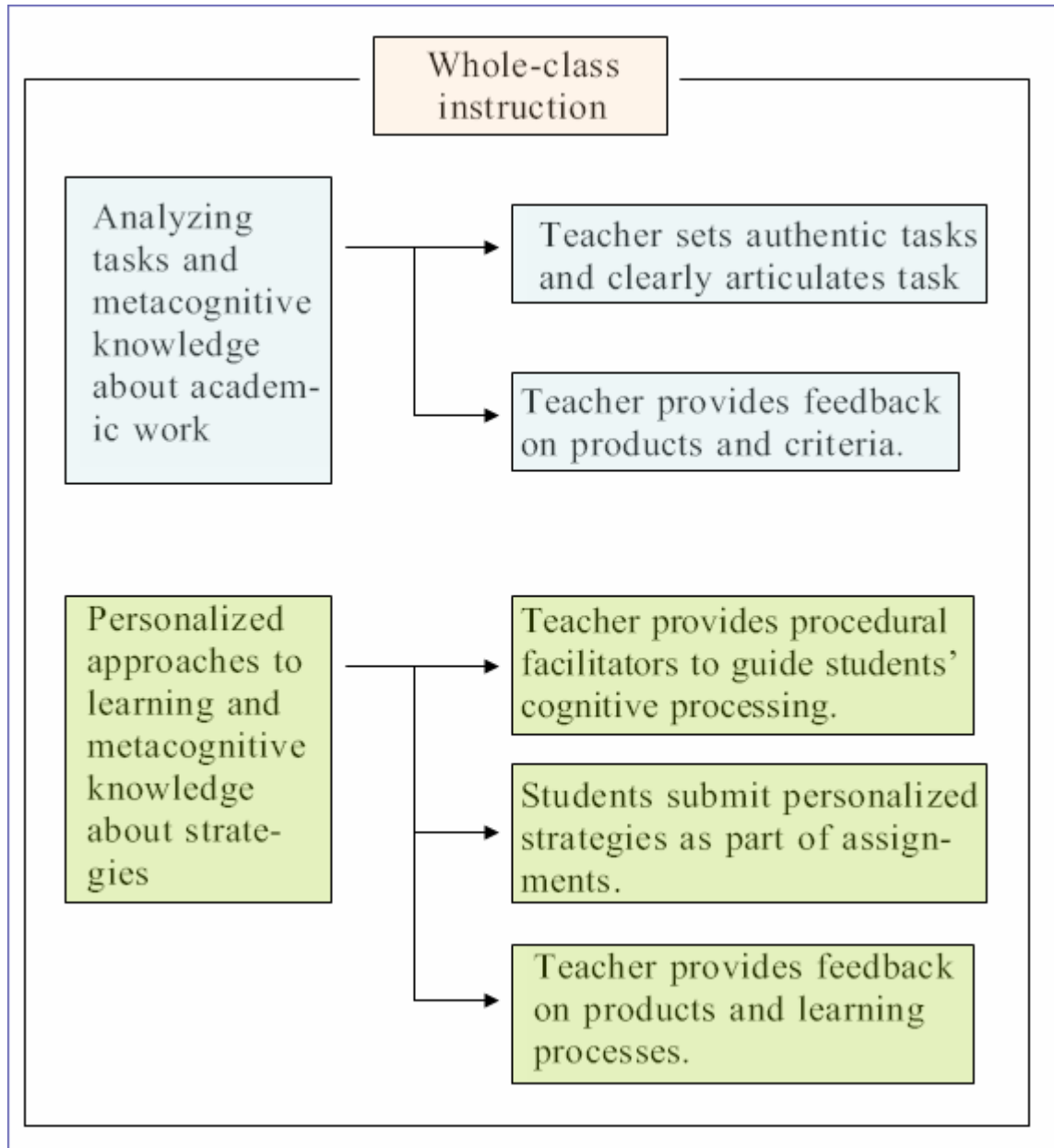
B. I know that this approach is quite simple, but my teacher experiences allow me to think that a determinate knowledge delivery generally inducts a determinate behavior. Maybe we can increase the performance of our young learners if we allow them to choose the way they want to complete the challenge.

The only tool for managing quickly such a wide differentiation with 25 pupils is the computer. Actually, from a unique framework, the machine can deliver a wide range of responses (text, video, audio, mixed files, etc.) through a wide range of peripherals (screen, board, tablet pc, smart phone, etc.)

If the link between the database and the graphic interface is well realized, you can imagine real interactive educational cartoons or serious games (e.g.: SCORM/Flash/LMS integration).

Consequently, you cannot just split the pedagogical conceptions from the pedagogical technologies.

C. I will base the scenario on five items of the SCL (Butler's document) which appear very relevant, in my point of view, for an eventual implementation of lclass in the European Schools:



Blue rectangles: the teacher is a teacher...

Green rectangles: the teacher is the PC...

D. Goal setting: I have created the following situation to start my pedagogical scenario (Fourth grade primary school)...

1. *Exploration phase:*

Max the Martian doesn't know the multiplication tables!
To calculate 21×3 , he uses a strange method!

2. *First target for the pupils:*

Calculate using Max's method:

$32 \times 3 = \dots\dots\dots$

$21 \times 4 = \dots\dots\dots$

$33 \times 3 = \dots\dots\dots$

3. *Second target for the pupils:*

Max the Martian says that he can use his method to calculate $96 \div 3$! How does he proceed?

D. Investigative tools:

1. When the teacher is a teacher...

Teacher sets authentic tasks and clearly articulates task	Provided by the initial presentation and the linear progression of the learning path in the screen.
Teacher provides feedback on products and criteria.	Provided by the final assessment.

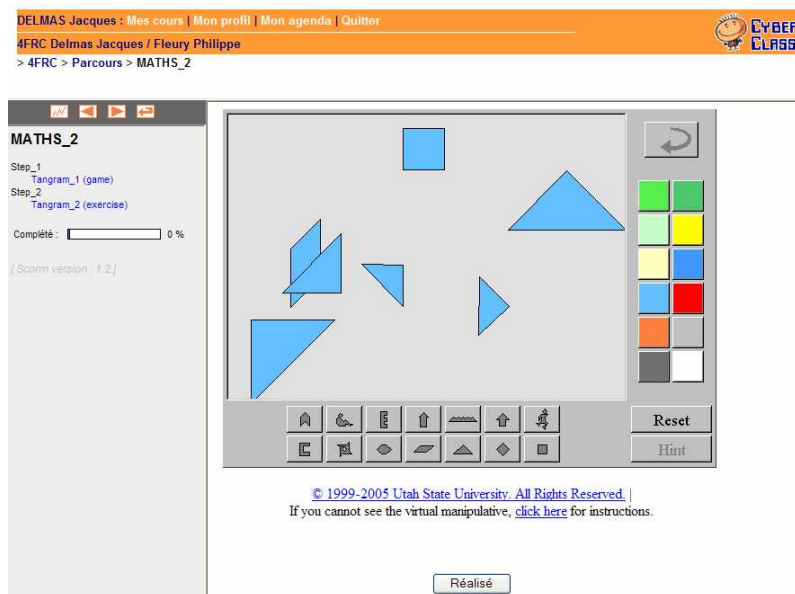
2. When the teacher is a computer (results are saved in the database)...

Teacher provides procedural facilitators to guide students' cognitive processing.	Provided by online help.
Students submit personalized strategies as part of assignments.	Submitted at each step of the learning path via e-form.
Teacher provides feedback on products and learning processes.	Provided by online questionnaires during the learning path.

E. Environmental conditions and settings:

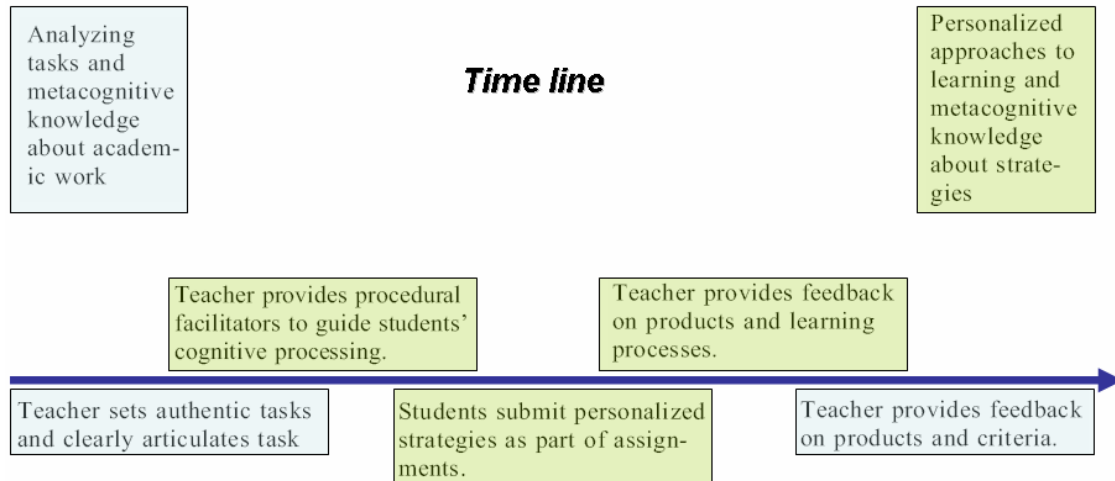
I will design a small and static web learning path (SCORM) that will constitute the backbone of my teaching strategy.

This is an example of the graphic interface for the pupils (two steps Tangram learning path):



During the phases with the entire class group (blue rectangles in the diagrams), I will use an interactive board to deliver the content to the pupils.

During the individual phases, each pupil will have one computer (green rectangles in the diagrams).



F. This learning path will be available at the end of May 2007.

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