

FaSMEd partners meet in Lyon, France, 28th-30th April 2015

At the end of April 2015, partners from France, Italy, Germany, Norway, Ireland, the UK and South Africa met in Lyon to share preliminary findings from the case study schools and discuss the developing toolkit.

This was an opportunity for partners to share FaSMEd practice happening within schools and was exemplified with visits to a primary and lower secondary

school in the Lyon area. Partners welcomed the opportunity to see FaSMEd mathematics, chemistry and sciences of life and earth in action and the opportunity to talk with teachers after the lessons.

There were also a number of opportunities to enjoy the excellent local cuisine that Lyon offers, which was enjoyed by all!



For further information please see: <http://research.ncl.ac.uk/fasmed>
Our Facebook page: <https://www.facebook.com/fasmedproject>
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FaSMEd NEWSLETTER

Issue 6

30th June 2015

Welcome to our sixth issue of the FaSMEd newsletter. This issue includes news and updates from across the project, with a particular focus on Torino, our Italian partner.

This issue was produced by Newcastle University, UK, and the University of Torino (UNITO), Italy.

News from across the project ...

It has been an eventful half year for the FaSMEd project. The following gives examples of work in schools, with teachers and with the international academic community.

South Africa - AIMSSEC has had a busy second school term. We have had cycles of planning a lesson, observing it, interviewing the teachers and writing up with fifteen teachers in seven schools. With all teachers we did a card-matching activity such as matching graphs, equations, ordered pairs and rules. We had a cluster meeting on 18th June in which we shared what everyone had done. We encouraged teachers to talk to one another about their experiences.

In May, Ingrid presented two papers at the local conference for teachers of mathematics, one on the design of a lesson about quadrilaterals and one on a task which requires students to design a garden. For both, she worked with teachers who had taught the lesson.

Utrecht - Presented preliminary FaSMEd findings at the ICMI conference of the Primary Mathematics Study on Whole Numbers in

Macau, China.

Lyon and Torino : FaSMEd will be well represented in the next CIEAEM conference which will be held this July in Aosta (Italy). The French and the Italian FaSMEd teams are presenting together a workshop during this conference: *Which support technology can give to mathematics formative assessment? The FaSMEd project in Italy and France.*

In Lyon, a general meeting with all partner schools will be held the first of July in order to take stock of the ongoing work.

Newcastle, UK - teachers have been busy completing their final research cycles before the summer holidays start in July. We will end the term with a cluster meeting where teachers from across three schools can share their experiences of the project, discuss future plans and celebrate achievements so far!

David has presented on the FaSMEd project to date at the British Society for Research in Learning Mathematics and at the 12th International Conference on Technology in Mathematics Teaching, Faro.



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News from Torino

The University of Torino (UNITO) is one of the largest Italian Universities, with an international perspective in the fields of both research and education. The three members of the UNITO team work within the Department of Philosophy and Education, which combines study of matters related to education (including teacher education) and philosophical enquiry.

Our perspective on formative assessment

Two assumptions inspired our planning of the teaching materials and of the activities implemented in the classes: (a) low achievement is linked to lack of basic competences, but also to affective and metacognitive factors; (b) argumentation can represent an effective formative assessment tool in the interaction between teacher and students.

This led us to focus on assessment lessons that involve collective discussions aimed at the sharing and comparing of students' productions. For this reason, we looked for a technology that could support the teachers in the sharing of students' screens and of their ongoing and final written productions and in the collection of students' opinions and reflections both during and at the end of each activity.

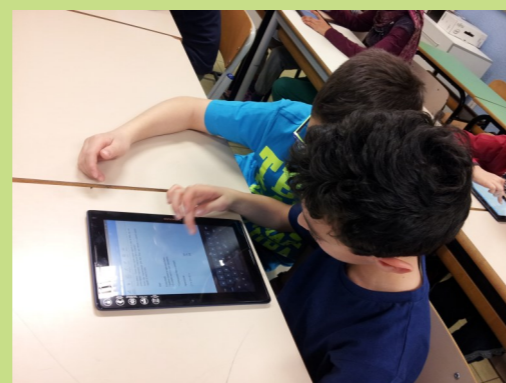
Our local schools

Sixteen teachers from three schools are participating within the FaSMEd Project:

- Eight teachers and their nine classes (seven primary school classes, grades 4-5, and two lower secondary school classes, grades 6-7) from the Istituto Comprensivo di Vinovo (Torino);
- Five teachers and their seven classes (lower secondary school classes, grades 6-7) from the Istituto Comprensivo di Carcare (Savona);
- Four teachers and their four classes (primary school classes, grades 4-5) from the Circolo Salgari (Torino).

Each school has been provided with tablets for the students (who work in pairs), computers for the teachers and, where the interactive whiteboard was not available, a data projector.

The students' tablets are connected with the teachers' laptop through the IDM-TClass software. In particular, during the lessons, the software allows the teacher to: (a) show, to one or more students, the teacher's screen and also other students' screens; (b) distribute documents to students and collect documents from the students' tablets; (c) create different kinds of tests and have a real-time visualization of the correct and the wrong answers; (d) create instant polls and immediately show their results to the whole class. Moreover, the students' written production can be displayed (through the data projector or the interactive whiteboard), compared and discussed.



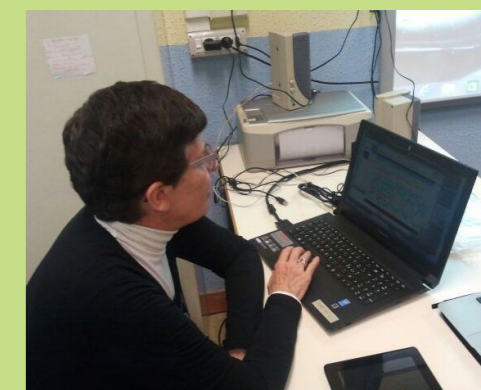
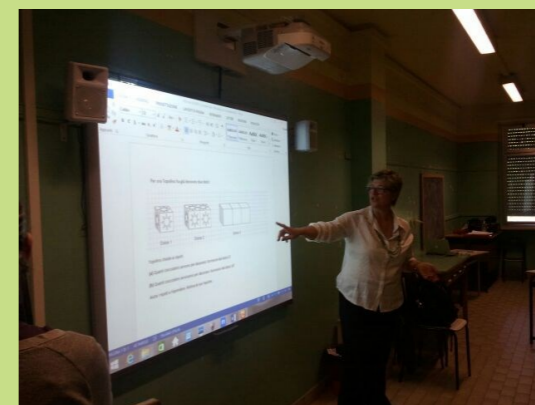
Lesson activities

In the first phase of the teaching experiments (the second phase will be carried out in autumn), each class worked on sequences of tasks on early algebra and on functions, with a focus on their different representations (verbal descriptions of relations, symbolic expressions, graphs and tables). The teaching materials were inspired by the ArAI Units, models of teaching sequences conceived within the ArAI project, included in the European Eltmaps Project (Effective Learning and Teaching of Mathematics from Primary to Secondary School, 71678-CP-1-2001-1-UK-COMENIUS-C31).

The ArAI Units include: (a) a focus on the mathematical meaning and the objectives of the activities, (b) excerpts of class discussions, (c) typical students' trajectories and comments on their answers, (d) reflections on teachers' possible feedbacks.

For each lesson, a set of different worksheets were prepared. They were aimed at:

- supporting the students in the verbalisation and the representation of the relations introduced within the lesson;
- enabling the students to compare and discuss their answers;
- making the students reflect at both the cognitive and metacognitive level.



After each lesson, the teachers have been interviewed. Many of them have faced some difficulties because they were not used to using digital technologies during their lessons. However, all the teachers recognised the effectiveness of the use of the classroom management system in fostering formative assessment in their classes, as the following excerpts, from the interviews, testify.

... the instant monitoring of what happens ... is the winning key of every activity. It is not about the activity you are doing, but about the way in which you are working. (Anna Lisa, Circolo Salgari)

Displaying the different protocols on the interactive whiteboard is really useful for the discussion because it enables all the students to become aware of the possible mistakes and about the effective ways of constructing the problems' solutions. Another effective aspect of the lessons was the possibility of individualising students' work through the different worksheets that could be sent to specific pairs of students. (Grazia, Istituto Comprensivo di Vinovo)

The technology represented a stimulus, for students ... a stimulus to produce, to try to write something which can be understood, because they knew that it would have been projected (at the interactive whiteboard), so it had to be understandable and complete (Monica, Istituto Comprensivo di Carcare).

I really liked the instant poll ... I think it is effective because it enables to make a synthesis. If you are able to identify the proper questions, you can summarise and effectively grasp if they did or did not understand. (Elena, Istituto Comprensivo di Carcare)