



INSTITUT DE FRANCE
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A long term model for IBSE in primary schools Lessons from *La main à la pâte* in France

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1996-2000 : *La main à la pâte* begins

- A fact : science is present in 3-4 % of primary schools (gr.1-5), despite curriculum prescription ;
- G. Charpak and Académie des sciences launch a small project;
- Focus : questioning, experimenting, writing ;
- **Explicit goal is to reach 100 % of schools ;**
- Approval of the Ministry of education ;
- 1999 : positive official evaluation report (J.P. Sarmant) ;
- 2000 : a three-year plan starts for all schools ;

Ingredients for a change

- The curriculum ? 1995 - **2002** - 2005 - 2007 - 2008 ;
- Initial teacher's training ?
- Continued teacher's training ?
 - 12-16 hours + 3 half-days : a few on science ;
 - <> 3.5 days dedicated sessions : (2006) $(800.000 \times 5\% \times 0.6) / 3.5 = 7000$
 - $280.000 / 7000 = 40$ years = once in a professional life time !
- Request from inspectors ? reading, writing, counting...
- Why teachers do not teach science ? Inquiry science ?

Strategy of *Lamap*

- To understand the teacher's fears ;
- To develop a **coaching staff** at the Académie (ca. 20 persons)
- To develop and provide **all kinds** of resources to teachers ;
 - A web site (10 years, 200.000 requests/month) ;
 - Pilot centers (approx. 3.000 classes) ;
 - Many others
- To explain science education to **public opinion** (radio...) ;
- To mobilise the **scientific community** ;
- To request **assessment** and develop its own (formative) ;

RESULT (2009) : approx. 30 % of classes !

Today and the future

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- National « *Socle commun* = common frame » : Gr. 1-9 :
 - IBSE is recognized for competencies ;
 - science & technology are united (7 « pillars ») ;
- A national assessment tool for the class : *Livret de compétence*
- *Teaching to the test* or expanding inquiry pedagogy ?

- Continuing Lamap efforts in primary schools ;
- Extending *Lamap* to middle school (Gr.6-7) ;
 - science-techno-college.net 2006-2010 ;

Lessons...

- IBSE : a slow process ;
- Teacher : understanding science and training is critical (cost) ;
- Formative assessment helps ;
- Scientific community : a must ;
- Industrial community : very slow in France ;
- Local community : a new and efficient (?) scheme (pilot centers)
- Expanding to middle school : a challenge ...
- European and international cooperation : fruitful ..