



The follow up of the Fibonacci project. A case study

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CSET and its educational projects

1. “Pollen” project (www.pollen-europa.net) to which CSET was an associate partner (2006–2009);
2. “Discover!” project (<http://education.inflpr.ro/ro/Descopera.htm>) focused on teachers professional development (2009–2011);
3. “Fibonacci” project (<http://education.inflpr.ro/ro/Fibonacci1.htm>) aiming to disseminate inquiry-based methods in science and mathematics, at European level (2010 – 2013)
4. “Creative Little Scientists” project (<http://www.creative-little-scientists.eu/>) a research project investigating the development of creativity at early age, in the context of science and mathematics education through inquiry (2011 – 2014)



CSET and its educational projects

4. "Inquiry-Based Education in Science and Technology - IBEST" (<http://education.inflpr.ro/ro/IBEST.htm>) devoted to the promotion of inquiry-based science learning (2012-2016)
6. "INSTEM - Inquiry Network for Science, Technology, Engineering and Mathematics Education" a network of European networks interested into IBSE (2012-2015)
7. "SUSTAIN - Supporting Science Teaching Advancement through Inquiry" <http://www.sustain-europe.eu/> promotes the education for sustainable development in relation to IBSE (2013 – 2016)
8. "CEYS – Creativity in Early Years Science Education" <http://www.ceys-project.eu/> promotes the use of creative approaches in teaching science in preschool and early primary education, in the frame of inquiry-based educational environments (2014-2017)



Shaping the future of STEM education

- ❖ **INSTEM - Inquiry Network for Science, Technology, Engineering and Mathematics Education = a Comenius network (14 partners) which brings together the experience and learning of a wide range of projects in European Science and Mathematics education.**
- ❖ **INSTEM links research, practice and policy in a unique way.**
- ❖ **Its main goals are to promote inquiry based teaching, to gather innovative teaching methods and to raise students' interest in science as well as offering them careers information in STEM subjects, in order to respond to global challenges in teaching and gender imbalances in STEM education.**



DISSEMINATING INQUIRY-BASED SCIENCE
AND MATHEMATICS EDUCATION IN EUROPE

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<http://fibonacci-project.eu/>



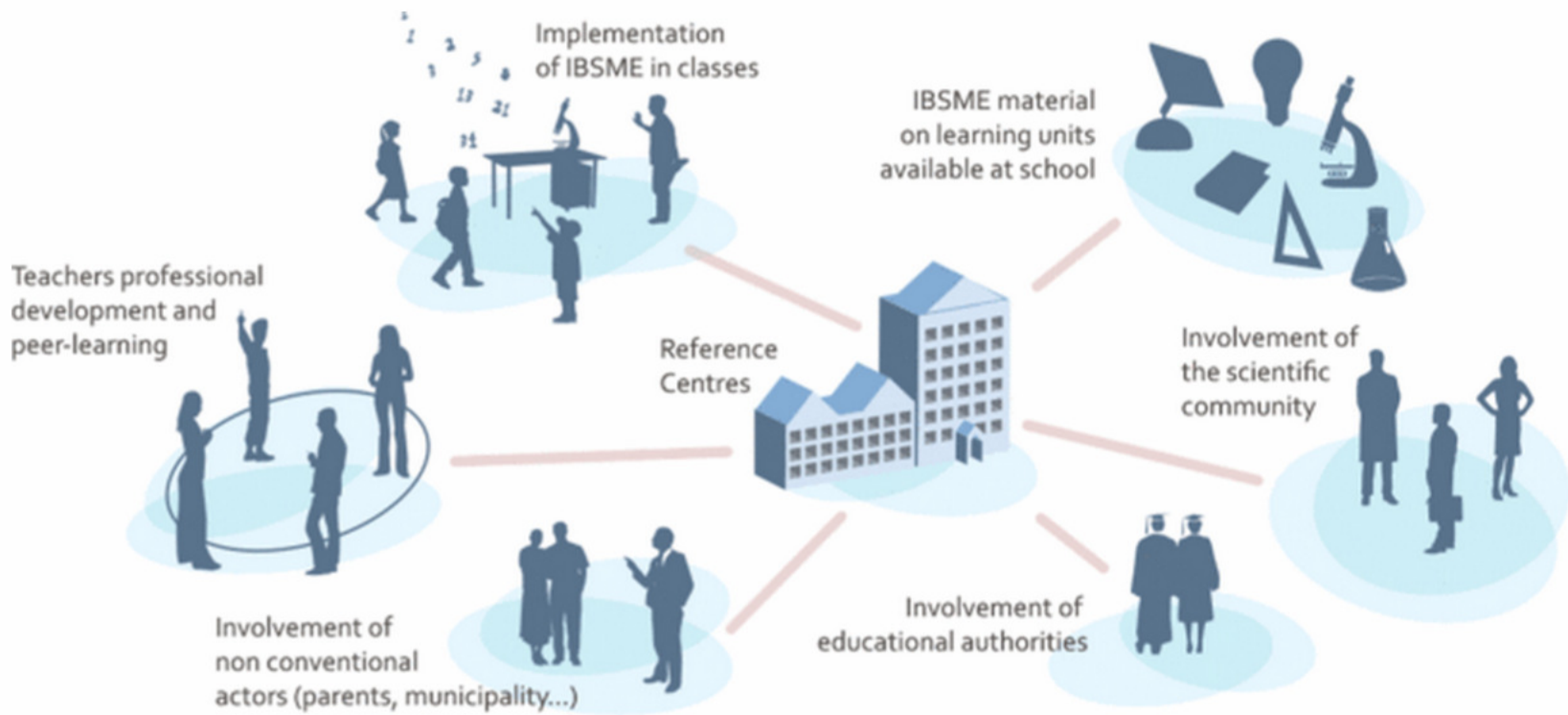
Main goals

Fibonacci project aimed to design, implement and test a process of dissemination in Europe of inquiry-based teaching and learning methods in science and mathematics.

Main focuses

- Inquiry-based science and mathematics education in primary and secondary schools.
- Local initiative to support education for innovation and sustainability.
- Twinning strategy for IBSME spreading: Reference Centers and Twinning Centers

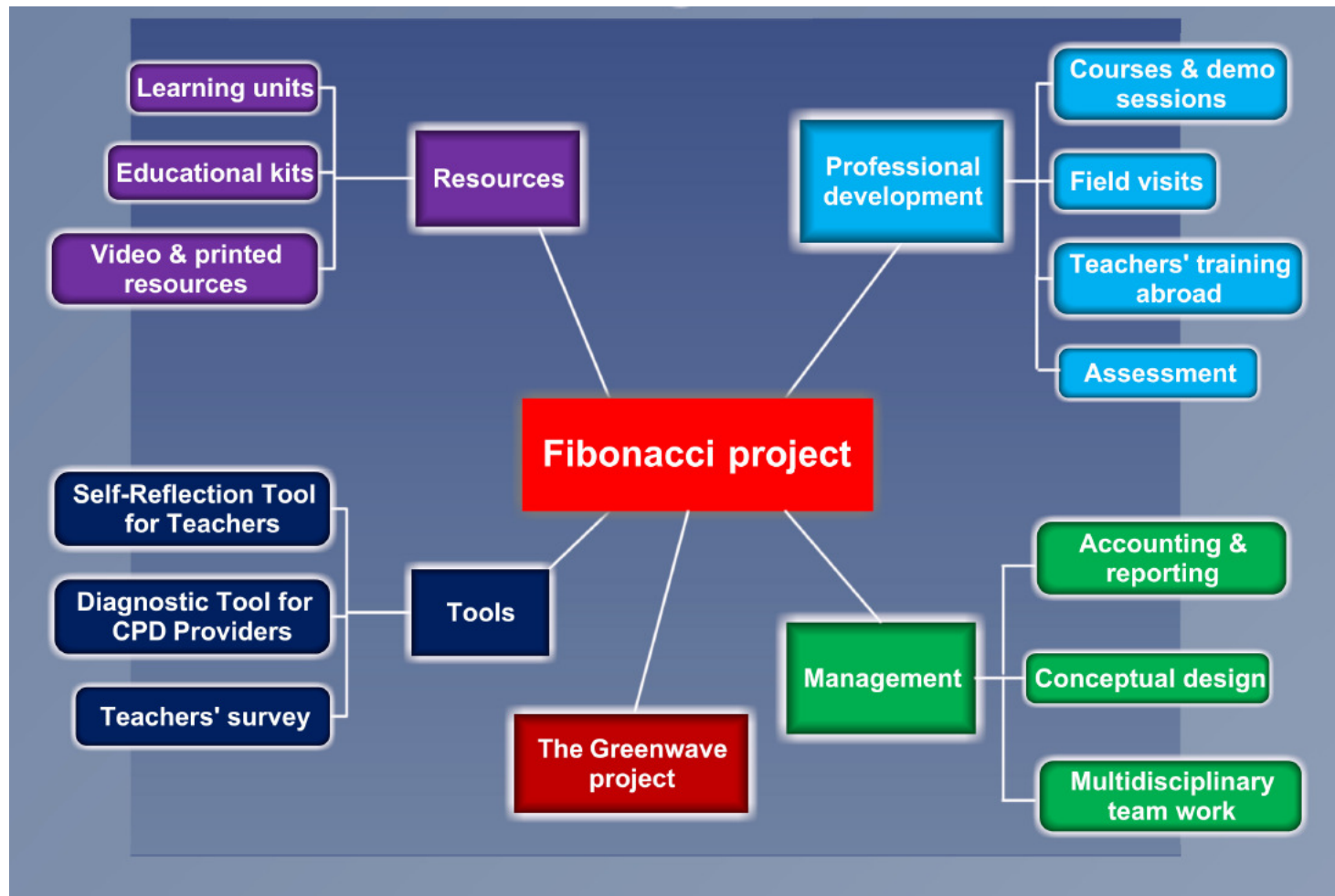
Reference Centers' tasks





Fibonacci events

- two international conferences;
- a series of seminars;
- 84 field visits and exchange of experts;
- five European training sessions on common topics.





Resources

Five booklets

- Deepening the specificities of scientific inquiry in mathematics;
- Deepening the specificities of scientific inquiry in natural sciences;
- Implementing and expanding a Reference Centre;
- Cross disciplinary approaches;
- Using the external environment of the school.

Learning units

Educational kits

Video and printed resources





Professional development

Courses and demo sessions

- more than 250 Romanian teachers were trained
- lecturers/experts from European universities delivered courses or assisted at classes

Field visits

- exchange of ideas
- discussions with teachers' trainers
- participation to practical lessons
- the opportunity to visit training facilities, schools and resource centres.



Tools

Extensive teachers' survey

- picture of the participants, their background and their vision on inquiry
- facilitated national project coordinators to assess project impact on participants
- estimate the partner schools needs and involvement in the project

Four diagnostic tools

- two dedicated to pre-school and primary/ middle school teachers and
- two planned to be used by providers of professional development courses



Diagnostic Tools

Instructions for professional development providers

- how to organize an interview with the evaluated teacher;
- how to plan and run a classroom visit;
- how to observe teacher-pupils interactions;
- how to monitor pupils activities and results during the lesson;
- how to collect and interpret acquired data.

Complementary issues for teachers' self assessment

- criteria for inquiry practice evaluation;
- how evidences have to be gathered on: teacher's role; pupils activities; pupils records;
- suggestions on reflection, analysis and post assessment action.

PHOTOS FROM FRANCE



Ash

17 April 2010
Soustons School
2 Rue D'Angleterre
Nice



Hawthorn

23 April 2010
Aske's School
40 Rue du Mail
Rouen



Frog Spawn

19 April 2010
De La Salle
82 Rue Duguesclin
Lyon

REGISTER NOW TO TAKE PART IN GREENWAVE EUROPE

Register

The aim of the Greenwave project is to observe the onset of spring as it arrives in Europe, and spreads across the continent.

[register now](#)



FIND OUT ABOUT OUR SPECIES

All countries in Europe will be invited to track the progress of the Frog and the Swallow as spring progresses. There are also local species for the different climates.

ABOUT THE PROJECT

Find out all about the spring, why it happens and what changes take place in our natural world during this time of year.

The students develop their skills in:

- Observing
- Classifying
- Recognising patterns
- Estimating and measuring
- Recording and communicating

Acasa

Vremea si parametrii meteo

Semnele primaverii

Poluarea sonora

Calitatea apei

Riscul radiatiei ultraviolete

Utilizator

Parola

Intrare in cont

| [Creare cont nou](#)



[Acasa](#)

[Cum puteti sa participati](#)

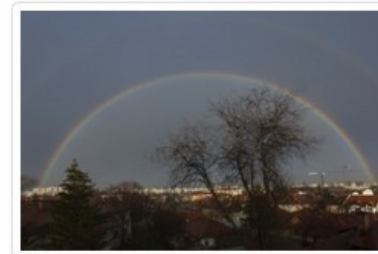
[Monitorizarea temperaturii](#)

[Monitorizarea nivelului de precipitatii](#)

[Monitorizarea vitezei vantului](#)

[Participanti la proiect](#)

[Vremea si parametrii meteo 2013](#)



Cum va inregistrati

Daca doriti sa participati la activitatea "Vremea si parametrii meteo", va rugam sa va faceti cont pe aceasta pagina prin click pe "Creare cont nou". Va trebui să furnizați următoarele informații:

- Numele dv.
- Denumirea școlii la care lucrați si adresa acesteia.
- Adresa dv. de email (Avem nevoie să vă contactăm individual, folosind adresa de e-mail, astfel încât în cazul în care există alte cadre didactice din școala dv., vă sugerăm să transmiteți adresa dv. personală, mai degrabă decât adresa de e-mail a școlii).



Management issues

- the accommodation with the way the financial management and reporting was imposed through the project;
- the conceptual design of educational activities we are planning based on a better understanding of inquiry-based science and mathematics education (IBSME) concepts;
- the exercise of team work in preparing the transversal topics booklets.

“Cross disciplinary approaches” brochure

- the subject required a multidisciplinary approach;
- the partners involved were redoubtable experts in this field;
- we have to adhere to curriculum development practices of other cultures and educational contexts.



Conclusions

The participation to the “Fibonacci” project:

- enlarged our horizon on IBSME;
- diversified our access to resources;
- provided new opportunities to improve our courses for teachers;
- assisted us implementing a national community of practice on IBSE;
- provided a better visibility for our efforts and results at national level;
- multiplied our external contacts and partners;
- assisted us in rising the interest of science teachers community on our work to implement innovative methods of science teaching in Romania.



Acknowledgements

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