



CEDEFOP

European Centre for the Development
of Vocational Training



Education and Culture DG
Lifelong Learning Programme

Study visit group report

Group No 227

Title of the visit Developing an experimental approach to science in primary schools

Topic Learning Mathematics and Science

City, country Poitiers, France

Type of visit General Education

Dates of visit 19 to 23 May 2014

Group reporter PEDRO CÁMARA ROMÁN

I FINDINGS

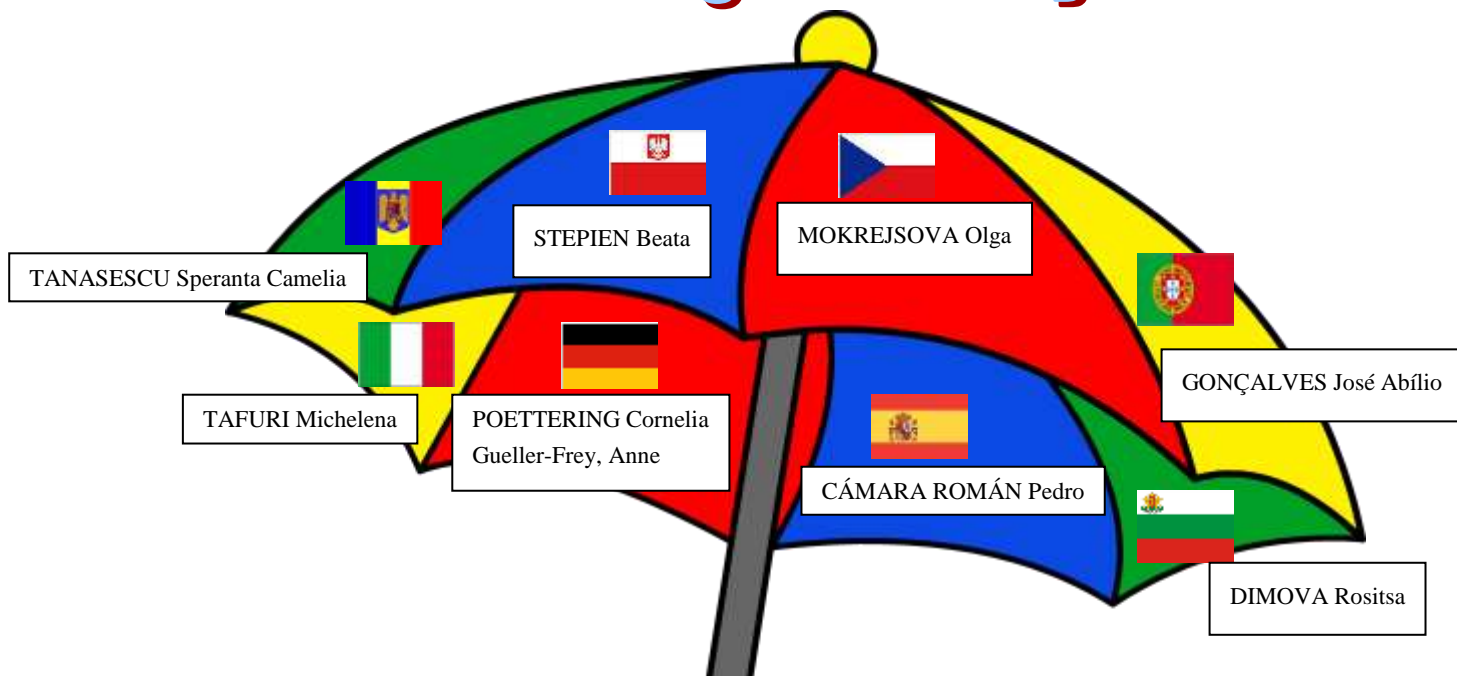
During this study visit participants had the chance to compare their own professional experience as far as Science Teaching/Learning is concerned, with the practice in some French Primary Schools and Preschools, which was really inspiring.

Our French colleagues seemed absolutely committed to their goal of promoting good Inquiry Based methodologies.

Open minded Primary/Preschool Teachers were willing to follow these methodologies according to their National Curriculum and shared their expertise and point of view with all participants.

The close relationship and cooperation between all the institutions involved in this policy proved to be very effective, promoting in-service teacher training and making specific resources fully available for the teachers.

Developing an experimental approach to Science Teaching in Primary Schools



Good practices learnt about during the visit (both from the hosts and from one another):

title of the project/programme/initiative	Country	Name of the institution that implements it (if possible, provide a website)	Contact person (if possible) who presented the programme to the group	whom the project/programme/initiative addresses	what features of the project/programme/initiative make it an example of good practice
Spanish/English Bilingual PROJECT MEC-British Council	Spain (Madrid)	CEIP Félix R. de la Fuente http://www.educa.madrid.org/web/cp.rodriгуezdelafu.coslad/index2.html	PEDRO CÁMARA ROMÁN	Infants/Primary Education	-Free of charge access to bilingual education. (State Schools) -CLIL approach leading to cross curricular and communicative activities.
The action-research on vertical (3 to 14 years) curriculum science	Italy	Centro d'Iniziatiуа Democratica degli Insegnanti (CIDI) di Sala Consilina www.cidi.com	Michelina Tafuri	Teachers training	Unitary view (in continuity) of the scientific education; The creation of a synergy system in support of teacher's training and their work; Groups of teachers are periodically supported by a supervisor in the implementation of an innovative didactic practices
Coordinate the educational system in Teleorman County	ROMANIA	INSPECTORATUL SCOLAR JUDETEAN TELEORMAN, www.isjtr.ro	Speranta Camelia TANASESCU	Inspector of sciences	Support and motivation for science through experimentation and laboratory work. Interest in research and innovative methods in scientific subjects. Trainee teachers go on teaching practice inside the classroom from the beginning of their training course.
Veda neni zadna veda	Czech Republic	Conatex cz	Olga Mokrejsova	Teachers of sciences Teacher trainers	Hands-on activities carried out within a natural environment. Inquiry based learning. Experiments as starting point of learning.
Educational system in Poland Good practices in Primary school in Outdoor learning	Poland	Primary School no 1 with integrated classes in Raciborz	Beata Stepien	Headteacher	Hands-on activities carried out within a natural environment, Educational school science project, robotics.
Educational system in Bulgaria-Good practices in Outdoor teaching	Bulgaria	137 SOU 'Angel Kanchev', Sofia	Rositsa Dimova	Deputy head	- Hands-on learning activities carried out within a natural environment - Ideas for more Laboratory work in lessons

Educational system in Germany Hands on learning based on Montessori principles: "Help me to do it myself"	Germany	Grundschule Hedendorf www.gs-hedendorf.de	Cornelia Poettering	Headmaster	<ul style="list-style-type: none"> - "Montessori" based learning - Hands-on learning activities in projects including outdoor activities - Station - work - Free learning activities as a learning tool. - Learning outside the classroom.
Teacher Training Program on Experimental Science Teaching	Portugal	Escola Superior de Educação do Instituto Politécnico de Setúbal www.es.e.ips.pt	José Abílio Gonçalves	Teachers trainers, teachers and students	<ul style="list-style-type: none"> -Pedagogical approaches and fundaments of the in-service teacher training program. -Improving students science literacy through implementation of inquiry based learning activities
Network "Integration through Qualification" (IQ) and "Network IQ MigraNet"	Germany	Tuer an Tuer Integrationsprojekte gGmbH Augsburg www.migranet.org www.netzwerk-iq.de	Anne Gueller-Frey	Transnational Coordination, Intercultural Trainer	Nationwide Network on the topic "Integrating migrants into the labour market" with a special focus on the recognition on foreign qualifications. Including transnational networking and a German-Canadian Partnership Campaigning work

2. The study visits programme aims to promote and support policy development and cooperation in lifelong learning. That is why it is important to know what you learnt about such policies and their implementation during your visit. You are invited to describe your findings concerning the following:

2.1 APPROACHES TAKEN BY PARTICIPATING COUNTRIES (BOTH HOST AND PARTICIPANTS') REGARDING THE THEME OF THE VISIT. ARE THERE ANY SIMILAR APPROACHES/MEASURES IN PARTICIPATING COUNTRIES? WHAT ASPECTS ARE SIMILAR AND WHY? WHAT ASPECTS ARE DIFFERENT AND WHY?

Participants could find many similarities, not only in the structure of their National Ed. Systems but also in the way most classes are carried out within the mainstream school system.

Although nowadays there is a tendency towards more active approaches (in nearly every country) lesson planning still tends to be quite “content/teacher centred”. Possible reasons: lack of time, too many topics to be taught, more active methodologies seem to be more time consuming... E.g. of good practice in Germany: The focus is more on competences rather than on “contents” which increases transferability of the topics to real life.

On the other hand, in most of the participants' countries, there is not a National Policy to Science Teacher Training in cooperation with Universities and Primary Schools, as the French do.

2.2 CHALLENGES FACED BY PARTICIPATING COUNTRIES (INCLUDING HOST) IN THEIR EFFORTS TO IMPLEMENT POLICIES RELATED TO THE THEME OF THE VISIT. WHAT ARE THE CHALLENGES? ARE THEY COMMON CHALLENGES? IF SO, WHY? IF NOT, WHY NOT?

How to overcome these “challenges” was not really the focus of the study visit and our discussions were more related to the scientific aspects behind the implementation of Inquiry Based approaches. But, in any case, we all agree on a certain lack of training on the implementation of “Hands-on approaches” that should be taken into consideration by Education Policy Makers. Resources availability should be considered as well.

2.3 NAME AND DESCRIBE EFFECTIVE AND INNOVATIVE SOLUTIONS YOU HAVE IDENTIFIED THAT PARTICIPATING COUNTRIES (BOTH HOST AND PARTICIPANTS) APPLY TO ADDRESS THE CHALLENGES MENTIONED IN QUESTION 2.2. PLEASE MENTION SPECIFIC COUNTRY EXAMPLES.

E.g. German example: The Primary School Hedendorf / Buxtehude is an excellent example for hands-on approaches. In the Federal State Lower Saxony the emphasis is on learning of competencies instead of learning of topics.

Each school has to develop its own specific curriculum based on a broad curriculum given by the government.

In the primary school in Hedendorf, many elements of the Montessori and Waldorf pedagogy are applied and the students work independently on project basis on Science topics.

In France, a close partnership (ASTEP) has been developed between Primary Schools and Engineering High Schools, so that un-experienced Primary Teachers can be helped and supported by “experts”.

Inspection in France proved to be cooperative and supporting, with a great network including all relevant stakeholders.

2.4 ASSESSMENT OF THE TRANSFERABILITY OF POLICIES AND PRACTICES. COULD ANY EXAMPLES OF GOOD PRACTICE PRESENTED IN THIS REPORT BE APPLIED AND TRANSFERRED TO OTHER COUNTRIES? IF SO, WHY? IF NOT, WHY NOT?

It is the case for every country to adopt ideas from the other participating countries. E.g. “outdoor education”, project based education, CLIL/Bilingual approach to be implemented in France, close cooperation between schools and universities (pupils and students work together), etc. Closer cooperation between science experts and teachers would be very successful on long term basis. The way Ed. Systems are organized and structured seem rather complicated to be directly transferred due to the different backgrounds and policies applied in other countries. Nonetheless, some innovative aspects and classroom tools, such as the **Students’ Research Notebook** or **Science/topic Boxes (toolkits)** in Germany can be easily transferred to our daily routines.

3. Creating networks of experts, building partnerships for future projects is another important objective of the study visit programme.

All participants are thinking about starting future projects together. They are all willing to create a cooperative networks so that good practices concerning the “Inquiry Based Approach” should be disseminated.

TO SUM UP

4. What is the most interesting/useful information that the group believes should be communicated to others? To whom, do you think, this information will be of most interest?

Primary hands-on Science practices, Inquiry Based Learning, their potential and possibilities in terms of achievement related to all the curricular areas and challenges, are to be forwarded. This information must be shared between teachers of all levels, headmasters and teacher trainers. It has been an inspiring experience for all of the participants.

THANK YOU!