

## S-TEAM, WP4

### Presentation of the DVD<sup>1</sup>

“Travail collectif enseignant et formation aux démarches d’investigation : l’exemple du programme [Pairform@nce](#).”



#### Abstract

The program [Pairform@nce](#) (organised by the national ministry of education in France) offers in-service training paths, aiming to provide sustainable ICT integration for all school levels and all topics. These paths are templates for training programs, which might be implemented across the whole country. These training programs are a blend of face-to-face and distance learning. They are grounded in the collective design of lessons, by teams of trainees.

This DVD focuses on Pairform@nce training paths directed towards the implementation of investigation in mathematics and science classes. It presents the corresponding training programs with the point of view of three kinds of actors: the trainees, following a training program; the trainers, setting up and managing the training; and the designers of the path which frames the training. Naturally, it also takes into account the students who take part in lessons designed by teachers following the training program.

<sup>1</sup> The language of the DVD is French.

## Public and objectives

The target public of the DVD are teacher trainers, willing to develop training programs directed towards the development of investigation in science and mathematics classes. These teacher trainers can be interested in the DVD at three levels, presented here from the more precise to the more general.

- *Supporting the implementation of [Pairform@nce](#) paths*  
[Pairform@nce](#) offers training paths on a platform, which can be used by trainers (in France) to develop their own training sessions. However, each training path is a complex construct. This DVD helps to understand the general principles of [Pairform@nce](#), holding for all the paths. Moreover it presents in details two paths: one in mathematics, the other in geography and geology. It can be considered as a precious guide, for trainers wanting to use these paths.
- *Supporting the development of a blended teacher training program, grounded in collaborative teacher work*  
The access to the [Pairform@nce](#) platform is not always simple to organise. The DVD also provides advice for organizing a [Pairform@nce-like](#) training, with a simple Moodle platform.
- *Supporting the development of training programs directed towards investigation*  
More generally, the DVD presents a reflection about investigation in mathematics and science in class, and more precisely on the possible uses of ICT for investigation. It proposes directions for innovative teacher training, giving a central place to teachers collaborative work.

## Table of contents

- 1) *An innovative training based on teachers' collective work: the [Pairform@nce](#) program in France.*  
Presentation of the [Pairform@nce](#) program, its principles and aims.
- 2) *“Investigating in mathematics with ICT at middle school”*  
Presentation of a training path in mathematics, oriented towards investigation. The aim of the path is to develop the trainees practice, in the use of ICT to support inquiry in mathematics.
- 3) *Investigation in mathematics with a dynamic geometry system: the example of “the river”*  
This part of the DVD proposes a detailed example of a mathematical problem, which can be set up in class with an investigation approach. The focus is on the possible use of a dynamic geometry system to enhance inquiry. This problem can be used with trainees, to propose different classroom scenarios, and compare their features, in an investigation perspective. Such a comparison can lead to productive debates within groups of trainees.
- 4) *“Virtual Globes 4”: example of a training path in Earth science and geography*  
Presentation of a training path in Earth science and geography. The ICT tools used in this path are Virtual globes (like Google Earth), but also portable device (GPS). The training focuses on the articulation between a field trip and classroom work on the computer.
- 5) *Teachers' collective work, the research point of view*  
In this part two researchers (Michel Grangeat and Ghislaine Gueudet) present short research contributions about teachers' collective work.