

*Restructuring Science Stories in Films and Role-Playing: Teaching Science Concepts in Their Social and Cultural Context*

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ABSTRACT. Four different short films about the life and work of Galileo, Michael Faraday, Maria Sklodowska Curie and Albert Einstein have been used in a set of workshops with pre- and in-service teachers that have been carried out by the ATLAS research group (ATLAS is an acronym for A Teaching and Learning Approach for Science).

Pre- and in-service teachers who attend the workshops:

- a) watch the film
- b) discuss and comment on the way the science concepts, the scientist's work, the contemporary social and cultural background, as well as the implied values and attitudes are presented in the film and elaborated by the director, the narrator and the specialists (historians and philosophers of science) who contribute in the film
- c) develop their own role-plays inspired by the film
- d) perform the developed role-plays
- e) discuss on the way science concepts, the scientist's work, the contemporary social and cultural background, as well as the implied values and attitudes have been presented in the performed role-plays.

The performed role-plays are video-taped, studied, analyzed and also used as short films in new workshops for pre- and in-service teachers' professional development courses that are either face-to-face or by distance. Both the films and the role-plays provide a dynamic environment for restructuring the science stories and bringing forward the elements of those stories that are really important and interesting for pre- and in-service teachers. This image of science concepts and theories and of scientists interconnected to their cultural and social background offers to teachers a friendly, stimulating and multi-leveled context for science learning and teaching.