

Title: Physics education of students and teachers in the Heureka project

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Abstract: This doctoral thesis is aimed at physics education of students and teachers in the Heureka project. The introductory part concerns the brief outline of the current state of physics education both in the Czech Republic and around the world. The next chapters describe the genesis of the project, characterize its main principles and give several examples of methodological sequences in which the application of these principles is shown. The impact of these ideas on students is illustrated by several school tests and the Lawson test, too.

The significant part of this thesis deals with the teacher training in the Heureka project. The methods and forms used are described and the impact is analyzed.

The international contacts and their development are mentioned in the closing chapter. Several more examples of materials both for students' work and teachers' seminars are published in the appendices. The DVD with digital recording of one lesson is also attached.

Keywords: the Heureka project, the constructivist approach in physics learning, teacher training in physics.