To Think Like a Scientist: 
an Experience from the Czech 
Primary School Inquiry-Based Learning Programme

Abstract

The paper presents an evaluation of an inquiry-based learning programme for primary school pupils in the Czech Republic. The programme consisted of two parts: in the first part pupils acquired and practised inquiry skills, in the second they applied them to three independent inquiry-based learning lessons. Both pupils and teachers were highly satisfied with the programme. According to the pre/post non-equivalent experimental/control group designed evaluation research, the pupils who participated in the programme significantly improved their understanding of the research cycle representing the basic logic of scientific work. No such change appeared in the control groups. The programme influenced both boys and girls. Even though no significant gender differences for the groups of the 4th-5th grades and 6th-7th grades were found, the girls from the 8th-9th grade received a better score than the boys in both pre- and post-testing.

Keywords: inquiry-based learning, programme evaluation, Czech Republic, research cycle

Introduction

Inquiry-based learning (also inquiry-based education or inquiry-based science education) is still a relatively new approach in science education (Magnussen, Ishida, & Itano, 2000; Chiappetta & Adams, 2004; Papacek, 2010a, 2010b; Stuchlikova, 2010). Despite being sometimes interchanged with problem-based learn-