

### **Developing primary school teachers' pedagogical content knowledge**

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The purpose of this study was to investigate the development of pedagogical content knowledge (PCK) within a group of nine in-service primary school teachers enrolled in a four-semester university course that in the Project unit (last semester) selected a biology topic to be applied in the classroom. This study aimed to analyse teachers' abilities to develop PCK in respect to the following four aspects: (i) representations of subject-matter for teaching, (ii) teaching strategies incorporating these representations (iii) specific pupils' conceptions, (iv) pupils' learning difficulties.

Individual supervisor-student sessions were carried out all along the semester. Teacher-students selected their biology topic of investigation and studied it in depth, planned and conducted experimental activities at the university laboratory, handled and interpreted their results, and reflected the whole experimental training in the view of children's learning. They planned their classroom activities and discussed them with the supervisor. Content analysis of teacher-students' dissertations showed that some teachers had difficulties on their personal reflection about the process they experienced, however they all recognised that they felt much more confident in implementing classroom science activities. Furthermore, interviews carried out four years later confirmed the long-term effectiveness of this approach to develop primary school teachers' pedagogical content knowledge.



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