

## EDITORIAL

The monothematic issue 2/2009 of *Orbis Scholae* focuses on teachers' and students' knowledge and its relation to teaching and learning processes. Published articles are bound by three central themes: (1) the nature of teachers' knowledge for teaching (i.e. pedagogical content knowledge – PCK) in different cultures and school subjects; (2) students' knowledge and understanding of the outside-world phenomena; (3) the nature of teaching and learning in different school subjects.

Pertti Kansanen attempts to find the core of pedagogical content knowledge by analysing the central concepts of the teaching-studying-learning process. Esther M. van Dijk in her comment on Kansanen tries to clarify the nature of pedagogical content knowledge using two different perspectives: PCK as a general body of knowledge and PCK as an element of teacher knowledge. Birgit Pepin explores mathematics teachers' knowledge for teaching, in the Anglo/American, French and German 'scene', and how this may relate to teachers' beliefs and practices as a 'teacher of mathematics'. Tomáš Janík, Petr Najvar, Jan Slavík and Josef Trna illustrate the dynamic nature of physics teachers' pedagogical content knowledge. Renate Seebauer attempts to identify possible modifications of subjective theories with teacher trainees in the course of study for future lower secondary teachers over a period of four semesters of study. The topic of students' knowledge and understanding is presented in several articles. Daniela Schmeinck examined the map-drawing abilities of an international sample of ten-year-old children. Milan Kubiak and Pavol Prokop attempts to find misconceptions about mammals among elementary children of various ages. Petr Najvar, Veronika Najvarová and Tomáš Janík aimed to investigate the nature of every-day teaching in different school subjects.

A range of content domains (school subjects) is featured throughout these articles – Mathematics, Physics, Geography, Biology, English and Physical Education. The authors employed both quantitative and qualitative approaches – including comparative research design. The comparative perspective on teachers' knowledge in different countries (England, France, Germany) is presented in the article by Birgit Pepin. Daniela Schmeinck uses comparative perspective to report results of a study focused on map-drawing abilities of an international sample of ten-year-old children. The idea of comparative understanding of school subjects is elaborated in the article by Petr Najvar et al., which aims at illuminating the nature of teaching in Physics, Geography, English and Physical Education.

These articles span empirical research carried out in different European countries. They consider how knowing, teaching and learning in different cultures and in different school subject may be examined, while remaining sensitive to comparative perspective in broader sense in educational research.

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