Preface

The 16th international ProMath (= Problem Solving in Teaching Mathematics) meeting took place in the Department of Teacher Education at the University Helsinki (Finland) from the 27th of May to the 30th of May 2014. The altogether 36 participants of the meeting came from 12 different countries (Canada, Finland, Germany, Hungary, Netherlands, Norway, Portugal, Sweden, Thailand, Turkey, United Kingdom and United States). There were 29 presentations at the conference. This report contains about one third of the presentations given in the meeting (nine research papers and one perspective paper). The papers are peer-reviewed. In the proceedings, the papers are ordered alphabetically.

The topics of the papers are scattered in different areas of implementation in problem solving, emphasizing open problems. Altogether four studies are implemented on different aspects of problem solving processes (Ambrus & Barczi-Veres, Kuzle, Mason, Rott). Another set of three papers are focused on teachers' actions (Chapman, Fülöp, Koponen). One paper is dealing with pupil aspects in school (Viitala). And one study that was based on background studies of the Finnish–Chilean cooperative research project on problem solving, had the focus on emotional atmosphere in mathematics lesson (Laine & al.). Furthermore one paper presents a problem field that can be used in school teaching (Graumann).

As the starting point for the series of the ProMath workshops can be considered the spontaneous meeting at the University of Bielefeld in 1999 on problem solving. The idea of the meeting was due to prof. Günter Graumann (University of Bielefeld, Germany), but there were behind some common discussion on the need for such meetings. During the first meeting we developed the concept of ProMath, and decided to meet annually. Thus the European research group ProMath was founded, and its aim is to study and examine those mathematical-didactical questions which arise through research on mathematical problem solving. The emphasis of the workshops is in the implementation of open-ended problems in school mathematics.

The international research group was planned to be open for everyone interested in mathematical problem solving. The group is based on voluntary organization, and tries to be as democratic as possible, e.g. there is no chair, and each year the group votes where the next year meeting will take place. The first meeting was in September 1999 in Bielefeld. The next meetings were alternating in several European universities: Bielefeld 2000 (Germany), Turku 2001 (Finland), Bielefeld 2002 (Germany), Jena 2003 (Germany), Lahti 2004 (Finland), Debrecen 2005 (Hungary), Komárno 2006 (Slovakia), Lüneburg 2007 (Germany), Vaasa 2008 (Finland), Budapest 2009 (Hungary), Jena 2010 (Germany), Umeå 2011 (Sweden), Ljubljana 2012 (Slovenia), Eger 2013 (Hungary), and Helsinki 2014 (Finland). The next meeting is planned to take place at the University of Halle (Germany) in September 2015.

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