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Editor

Mathematics Teacher Preparation in Central America and the Caribbean

The Cases of Colombia, Costa Rica,
the Dominican Republic and Venezuela

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Foreword

The International Commission on Mathematical Instruction (ICMI) has a substantive interest in ensuring that its resources and influence extend to any country that is able to mobilize the elements of its mathematics education enterprise to make productive use of this connection. In line with this goal, ICMI in conjunction with the International Mathematical Union (IMU), and with the support of UNESCO and ICSU (International Council for Science), promotes the Capacity & Networking Project (CANP). It aims to enhance mathematics education in developing countries by supporting the educational capacity of those responsible for mathematics teachers, and to create sustained regional networks of teachers, mathematics educators and mathematicians, linking them to international support.

CANP consists of a program that is being carried out since 2011 in different developing world regions: each program has, at its center, a two-week workshop of about forty participants, half from the host country and half from regional neighbors, who interact with experts in mathematics, math education, and school policy coming from different parts of the world. It is primarily aimed at mathematics teacher educators, but each event includes also mathematicians, researchers, policymakers, and key teachers.

The Capacity & Networking Project is a major international initiative in the mathematical sciences in the developing world to help exchange information, share the state of the art research, enhance mathematics education and build a sustainable network for policymakers, scholars and practitioners across those targeted regions.

The program builds on existing activities in the region and does not seek to reproduce or compete with existing development programs.

At the moment when this book is printed (2016) five CANP workshops have been held: CANP-1 in sub-Saharan Africa (2011), CANP-2 in Central America and Caribbean Area (2012), CANP-3 in South East Asia (2013), CANP-4 in East Africa (2014), CANP-5 in Andean Region and Paraguay (2016).

The main goal of a CANP consists in building capacity in mathematics education and creating a sustainable regional network in the countries, which participate to the workshop, with a common goal of improving mathematics education in

the region. The initial two-week workshop is an occasion for launching the network and for collecting and sharing information about the situation of mathematics teaching in the region. For this, before the workshop each group of participants from a country prepares a report about the state of the art in their own country: the reports are presented, compared and discussed during the meeting. After that, they are further elaborated according the results of the discussions and constitute a final report for that CANP.

They constitute interesting documents about mathematics education in the regions touched by the different CANPs, and give a piece of information not always accessible in an easy way. For this reason ICMI decided to launch a new series of books with an international publisher, Springer, in order to make accessible non-expensive format reports to an international audience of informed policy-makers and scientists.

The present volume is the second in the series of CANPs reports: it is the result of a huge work of elaboration of the original documents presented in Spanish at CANP-2 workshop, held from August 6 to 17, 2012 in San José, Costa Rica. The event involved 66 participants from Central America and the Caribbean Region and concerned the initial and continuing formation of mathematics teachers in those countries. It was organized in a splendid way thanks to the wonderful work both of the International Program Committee, and of the Local Organising Committee, and especially of Angel Ruiz, vice-president of ICMI: as liaison person with ICMI he participated to the scientific design of this CANP and with his team took care of all its organizational aspects. In fact CANP-2 included lectures given by outstanding mathematicians and math educators, regional presentations, workshops, round-table discussions, panel presentations, and other parallel activities. Many hours were devoted to the discussion of the regional reports, which are the germs from which this book was originated, and to the creation of a Mathematics Education Network (REDUMATE: Red de Educación Matemática de América Central y El Caribe—www.redumate.org).

Angel Ruiz is also the editor of the volume: with all the other authors, he made a huge effort to have the different articles written in a suitable and uniform way. They illustrate in an updated form the initial and continuing preparation of mathematics teachers in Colombia, Costa Rica, Dominican Republic, and Venezuela.

I thank all those who have made possible the existence of this book: the editors, the authors, the excellent translator of the reports from Spanish, Patrick (Rick) Scott, the publisher, and particularly the participants to the CANP-2 event and to its follow-ups. I do think that making accessible its content to math educators, teachers, and policymakers also outside Latin America represents a useful tool for approaching the problems of mathematics education within a global landscape, but without forgetting the specific cultural and social needs of specific developing regions, in this case Central America and Caribbean area.

It is my strong hope that with the publication of these CANP books, we will have a wide updated picture of mathematics education needs and problems from relevant parts of the developing world. This will help to avoid the dangers of the alienation generated by the loss of the variety of cultural richness existing in the different regions of the world.

Torino
September 2016

Ferdinando Arzarello
President of the International
Commission on Mathematical Instruction

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About the Editor

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About the Translator

Patrick (Rick) Scott retired from the College of Education at New Mexico State University in 2006 where he had been Professor of Bilingual Mathematics Education. He then became the first Manager of the New Mexico Public Education Department's Mathematics and Science Bureau. He is Vice Chair of the U.S. National Academy of Science's Board of International Scientific Organizations, Past-Chair of the U.S. National Commission on Mathematics Instruction, Vice President of the Inter-American Committee on Mathematics Education, and International Representative of the National Council of Teachers of Mathematics. He has an EdD in Mathematics Education from Columbia University and a B.S. in Mathematics from Stanford University. He has published dozens of articles, books and reports in English and Spanish.