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The Future of Mathematics Education

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## The Future of Mathematics Education

*International Approaches to Professional Development for Mathematics Teachers* edited by Nadine Bednarz, Dario Fiorentini, and Rongjin Huang. Ottawa: University of Ottawa Press. © 2011. 254 pages. ISBN: 978-0-7766-0747-4.

Reviewed by Dr. Sharon Riley Ordu, DeKalb Early College Academy, Stone Mountain, Georgia, USA.

International Approaches to Professional Development for Mathematics Teachers came about as a result of the discussions of an international study group at the 11th International Conference on Mathematics Education, which took place in Monterrey, Mexico, in 2008. The book, written by 32 international contributors and edited by three internationally known professors, is a series of personalized chapters centered around the experiences of each author or authors.

Research of well-known educators in the area of teaching, learning, innovation, and professional development is prevalent in the book, which is broken into five sections: (1) International Perspectives on Math and Teacher Education, (2) Professional Development in Practice of Math Teachers, (3) Professional Knowledge Development of Math Teachers, (4) Experiences of Professional Development in Teaching Mathematics, which includes eight chapters, and (5) Reforms, Curricular Change, and Continuous Professional Development. By breaking the book into these distinct parts, it does not have to be read in any particular order, and the information flows well and is easily referenced.

The book begins with a brief review of the history of mathematics education from a historical perspective. Chapter 2 has an overarching theme of collaboration—a popular way for teachers to work together in professional learning communities. It chronicles and follows the participation of a teacher as a math subject leader. Nunes points out that "the mathematics subject group is a cohesive and collaborative group, teachers in it sharing and reflecting on their own practices. These characteristics represent two catalysts that facilitate and reinforce trust and a collective feeling of support, which are necessary for educational innovation and change" (as cited in Bednarz, Fiorenti, Huang, 2011, p. 59).

Subsequent chapters focus on topics such as mentoring for professional development of math teachers, facilitating professional development through ranking and promotion in mainland China, dialogue among math teachers in an Internet-based math course, collaboration of math teachers with nonspecialist teachers, and collaborative work of math teachers in Brazil, as well as learning by investigating and writing during math teacher professional development. The book then concludes with a section written by the editors.

Sprinkled among the chapters are tables with graphic illustrations related to the chapter contents, including tables illustrating a model to evaluate professional development, as well as a table illustrating standards for a model of professional development design and implementation compared to specific components of a featured program. The discussion of reform in the latter part of the book is well-suited to what is happening in not only math education, but education in general around the world. In the United States, for example, there is a major curricular reform taking place with the addition of the Common Core Standards in math and other subject areas, which will change the way teachers deliver instruction, plan, and assess students. This book allows the reader to see reform from an international perspective. It is a tremendously useful resource of alternative approaches to professional development for math teachers from around the world.

This book is not always easy to read due to its frequent use of acronyms; however, valuable insights about math teacher education abound, including a powerful list of eight points that form an agenda for the future of math teacher professional development. The editors of this book have left no stone unturned when it comes to international perspectives in the context of professional development for math teachers.