Schools everywhere are being confronted with the evolution of learning/teaching paradigms that ultimately call into question a number of traditional mathematical teaching practices. These changes demand serious reflection on how to support frontline educators who are expected to continue developing their teaching skills.

Alternative approaches to professional development have been established worldwide to support practitioner education and contribute to professional development that is informed by practice, created for practice and refined in practice. This volume aims to provide a rich portrait of these emergent strategies in the professional development of mathematics teachers, designed to bridge the divide between theory and practice.

Written by researchers in the field of mathematics teacher education around the world, the authors examine innovative approaches that are being established in the international community to support the professional development of teachers of mathematics. Most of these approaches take seriously into account the practitioner’s point of view and are fundamentally rooted in the context of the classroom.

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Chapter 6

Dialogue among In-Service Teachers in an Internet-Based Mathematics Education Program

Mario Sánchez

Introduction

The mathematics education program of the Centro de Investigación en Ciencia Aplicada y Tecnología Avanzada del Instituto Politécnico Nacional (CICATA-IPN) in Mexico is an Internet-based program directed at in-service mathematics teachers in Latin American countries. The program offers master’s and PhD studies constituted by a number of different courses. Since the foundation of the program, these courses have been (re)designed based on the experiences, intuitions, and criteria of the different teacher educators in charge of them. In spite of this pragmatic design of the courses, in some cases teachers’ engagement in group discussions and reflections positively affect their beliefs and attitudes about the teaching and learning of mathematics.

The aim of the study reported in this chapter was to evaluate, in a more theoretical way, what constitutes these fruitful interactions and the design factors that seem to act in favour of such interactions. The analysis reported here focused on a special design element called note of reflection, which has been included in different courses of the aforementioned program. I will describe the characteristics of this element later.

The data presented here were constituted by the interactions among a small group of in-service mathematics teachers while they were discussing one of the notes of reflection. Their interactions were analyzed using the concept of dialogue as it is developed in Alrø and Skovsmose (2002).