

DESIGNING PROFESSIONAL DEVELOPMENT FOR IN-SERVICE MATHEMATICS TEACHERS IN TAIWAN

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Recently, the Ministry of Education launched a curriculum reform for compulsory education, grades 1-9, in Taiwan. However, the desired reform cannot happen by solely setting the scene. Practicing teachers need to know how to deal with the subject matter in a way differing from the so-called traditional one. The new curriculum requires that teachers know their subjects in-depth and know how to teach them to diverse students. Teachers must design learning environments that are flexible enough to accommodate varying needs of students. How to educate qualified teachers for the reform provides quite a big challenge. The purpose of this project was to design and develop effective models of professional development for in-service mathematics teachers.

This project is based on an integrated program of research focused on (a) the Guidelines of Taiwan National Curriculum; (b) Values in mathematics education (Bishop, 2001); (c) MiC, Mathematics in Context, and RME, Netherlands Realistic Mathematics Education; (d) Dubisnky's APOS theory; (e) Chang's PCDC instructional model (Chang, 2001). With these theories as guidance, there were 30 teachers participating in a co-working team with a teacher educator. They work together to develop instructional teaching modules, and implementing the teaching modules in their classrooms. We focus on values in mathematics education. We have particular knowledge about the development of a mathematics conception and values in mathematics education that would like teachers to come to understand. In coming to understand these values and knowledge, teachers create their own ways of organizing and framing the knowledge. They also think hard about the relationship between these values and knowledge and their teaching.

References

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