

**RETHINKING TEACHERS' PROFESSIONAL DEVELOPMENT OF MATHEMATICS:
FROM THE PRACTICAL PERSPECTIVE**

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Teacher professional development is a key element in supporting the goals of mathematics education. The purpose of this study is to consider whether the current direction of mathematics professional development for elementary school teachers is appropriate to achieve the goal of mathematics education. Through two questions, the problems of elementary school teachers' professional development of mathematics are examined and the practical point of view is discussed as a new approach.

WHAT ARE THE PROBLEMS OF MATHEMATICS PROFESSIONAL DEVELOPMENT?

It is no exaggeration to say that quality mathematics education depends on the quality of professional development of teachers. However, the current direction of mathematics professional development for elementary school teachers is questionable in practical meaning and sustainability. This study aims to examine the problems of mathematics professional development of elementary school teachers from two questions.

WHO LEADS THE TEACHERS' MATHEMATICS PROFESSIONAL DEVELOPMENT?

Learners of professional development are teachers (Borko, 2004). Teachers must continue to develop their professionalism in mathematics as a learner. Therefore, the start point of professional development needs to be derived from the needs and will of teachers. However, the current mathematics professional development is mainly led by professors of mathematics education, mathematics education experts, and school boards, ignoring the experience and professionalism of teachers who know the school best. The phenomenon will inevitably follow, making it difficult to stimulate teachers' need and commitment to learning.

HOW DO THE TEACHERS DEVELOP THEIR MATHEMATICS PROFESSIONALISM?

The ways of professional development provided above do not give the teacher a choice. Teachers have only limited options within the framework of a given education policy and a given method of education. However, teachers' necessity and willingness to develop professionalism interacts with the educational context in which the teacher practices. The ways of teachers' mathematics professional development should be understood, shared and applied on the ground of the school. Therefore, the approach to mathematics professional development provided for the present is difficult to obtain active cooperation of teachers.

PRACTICAL PERSPECTIVE: A NEW LENS FOR UNDERSTANDING TEACHERS

Marginalization of teachers in professional development and limited options in how to develop teacher professionalism can be overcome by actively understanding teachers and their practice. In other words, it is necessary to recognize that professional development starts from the teacher, and to understand the cycle of professional development that starts from the field of practice and applies to the field of practice. This is a practical perspective, and the lens of practical perspective will bring us closer to the goal of mathematics education and the direction of educational reform.

Borko, H. (2004). Professional development and teacher learning: Mapping the terrain. *Educational Researcher*, 33(8), 3–15.