From the textbook to the enacted curriculum: Textbook use in the middle school mathematics classroom

Chávez-López, Óscar, 1963-

Abstract
The dissertation study reported here describes how teachers use district-adopted mathematics curriculum materials and other curricular resources. Analysis of survey data, textbook diaries, and classroom observations was used to describe the use of mathematics textbooks by 53 teachers in 11 middle schools. Three teachers from this group were identified for individual case studies to gain more in-depth understanding of the reasons behind the decisions made by the teachers regarding mapping, planning, and enacting the curriculum. These case studies include data from classroom observations and in-depth interviews. Following work by Remillard (1999); Remillard and Bryans (2003), a model for primary use of textbook is proposed. A model of teacher's role in curriculum development proposed by Remillard (1999) was used to analyze textbook use by the teachers in the case studies. The majority of teachers in this study used their textbooks frequently. They used the district adopted mathematics textbook to select tasks and to plan their lessons. Three case studies further inform us about how a teacher's views of mathematics and mathematics teaching shape his or her use of textbook, as well as their stance toward the textbook they are using. Two of the teachers in the case studies had had an active role in the textbook selection and adoption process, had a positive view of the textbook and as a consequence were more committed to faithfully implement their textbooks. Their views of mathematics and mathematics teaching shape those represented by their respective textbooks. The textbooks they used were as different as their views of mathematics. Their different levels of mathematics content knowledge and their experiences as learners of mathematics shaped their views of the textbooks they were using. One of them found herself identified with a textbook focused in procedural knowledge and a strong reliance on repetition, while the other had views more closely related to a textbook based on realistic contexts in which students are supposed to reinvent significant mathematics.

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We find that a deliberate use of the textbook and an intimate relationship with the textbook reflects a high PDC. In the U.S., three curriculum strategies are being used to improve school mathematics programs and student learning outcomes: (a) the movement to common standards; (b) advances in technology-based instructional resources; and (c) the pressure of accountability measured by end-of-year assessments. Together, these strategies are creating a "perfect storm" for significant changes in mathematics curriculum.