

GUEST EDITORS' PREFACE

Middle School Mathematics: Current Issues in Teacher Preparation and Student Learning

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INTRODUCTION

This special issue provides an eclectic look at various aspects of mathematics education through the lens of middle school teachers and students. Each article represents a distinct and unique thread from each of the essential components for middle grades teaching and learning. This work reflects the role of research in supporting four strands impacting middle grades mathematics education, that of preservice middle grades teacher preparation, inservice professional development, improving the achievement of nonnative English speakers, and eighth-grade algebra. The four articles range from teacher preparation and professional development to implementing mathematics reform curricula with ESL students and the experiences of early algebra students in middle school classrooms. The purpose for this special issue is to provide a sampling of the critical types of research being conducted with middle school students and teachers so

others may build upon and use the information to improve middle-grades programs in mathematics education.

In the first article, Piccolo, Capraro, and Capraro observe and interview 20 middle-level mathematics preservice teachers throughout their initial field-placement teaching experiences using the Classroom Observation and Performance Assessment for Teachers-Revised (COPAT-R) instrument and semistructured interviews comparing their general and content-specific pedagogical development. In the second article, Nannette Seago examines a professional development program designed to transform middle school geometry through developing materials that support teachers' understandings and making the content more accessible to students in the learning of similarity concepts.

The third article by Sylvia Celedón-Pattichis details an 18-month case study highlighting the successes and challenges one English as a second language/mathematics teacher

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encounters as she makes the shift from using traditional mathematics curriculum to a standards-based curriculum as part of a statewide systemic initiative and its impact on middle grade's instruction with a high-needs popula-

tion. The last of the series, but possibly the timeliest, the article by Frances Spielhagan explores algebra for all middle school students through their perceptions of tracking in middle school mathematics.