

Supporting Mathematical Proficiency: An Opportunity to Learn Framework

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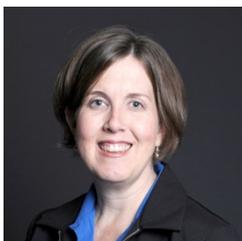
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Abstract:

This article considers supporting mathematical proficiency through applying an existing opportunity-to-learn (OTL) framework that focuses on finer-grain features of instruction: specialized mathematics knowledge, time utilization, mathematical tasks, and mathematical talk. This work adds to the conversations in the mathematics education community by connecting OTL and mathematical proficiency through a focus on details of what is happening within a learning environment (e.g., a mathematics classroom). OTL intersects with several recommendations in *IMPACT: Improving Mathematical Prowess and College Teaching* (AMATYC, 2018) that center on learning environments, instructional practices, and use of curricula. Similar to the discussion in *IMPACT*, we cite research and practices grounded in the K -12 context because such practices are applicable to teaching and learning in two-year colleges.



Robert Q. Berry III is president of the National Council of Teachers of Mathematics (NCTM), a 50,000-member international mathematics education organization. Berry is a professor in the Curry School of Education at the University of Virginia, with an appointment in Curriculum Instruction and Special Education. Berry teaches mathematics methods courses in the teacher education program at the University of Virginia. Additionally, he teaches graduate-level mathematics education courses and courses for in-service teachers seeking a mathematics specialist endorsement.



Temple A. Walkowiak is an associate professor of mathematics education in the College of Education at North Carolina State University and a former public school teacher and mathematics specialist. At NC State, she teaches mathematics methods courses for preservice elementary teachers, master's-level courses for practicing elementary teachers, and doctoral courses focused on teacher education. Her research focuses on the measurement of mathematics instructional quality in elementary classrooms and the impact of teacher preparation on teachers' knowledge, beliefs, and practice.



Holly H. Pinter is an associate professor of elementary and middle grades mathematics education. Pinter completed a PhD in 2013 at the University of Virginia after spending five years as a middle school mathematics teacher. Pinter's teaching and research center on the implementation of standards-based mathematics teaching practices, preservice teacher education policy and practice, and developmentally responsive teaching at the middle level. Pinter teaches methods and pedagogy courses in the elementary and middle grades department, as well as serving as the Math 1 teacher of record and instructional liaison at the university's laboratory school, The Catamount School.