ACADEMIC RIGOR FOR ALL: A RESEARCH REPORT

The investigation focused on how teachers provided effective, rigorous instruction for low to middle-track students. Four mathematics and social studies teachers, identified as providing effective, high rigorous instruction, were used as case studies. Of the four, two mathematics teachers taught sixth and ninth grade students, and two social studies teachers taught sixth and eighth grade students. Drs. Gabriel Reich and Volkan Sevim, co-principal investigators, observed and interviewed the teachers and conducted a qualitative analysis of data to identify trends and themes.

An extensive literature review on academic rigor revealed a vast range of definitions of rigor in policy documents, educational scholarship, and research within the disciplines. The researchers chose to synthesize a definition of rigor from a number of these extant frameworks, but also highlighted the centrality of disciplinary understanding in this study. The framework used in this study emphasized approaches that prioritize disciplinary thinking including conceptual understanding and procedural fluency.

The qualitative case study involved observation of at least three class periods per teacher, followed by semi-structured interviews. To characterize the teachers' practices, following the work of Newmann (1996), a unique research protocol and data collection instrument on rigorous instruction were used. The analysis of the data focused on four distinct areas of instruction: higher-order thinking, connections to the world outside of school, deep disciplinary knowledge, and substantive discussion. The field notes, interview transcripts, classroom artifacts, handouts, lesson plans, and student work, formed the basis of rich case descriptions of effective and rigorous classroom practice.

The findings of the study indicate that rigorous teachers: (1) think in terms of the big ideas that they want their students to understand; (2) design their instructional practice so that students shoulder some of the burden of uncovering the ideas, rather than being told the ideas; (3) are sensitive to the struggles that students have in understanding the big ideas, a sensitivity that leads them to periodically re-design their instruction; (4) frequently make connections between the big ideas and the world outside of school; (5) create an environment of rigor through applying both academic and affective "press," (i.e., aspects of the educational or school climate that work to foster high expectations and achievement); (6) use activities that are fun and engaging; (7) use ambitious project-based learning and collaborative classroom activities; and (8) frequently encourage their students to explain their reasoning and solutions to posed problems. Finally, the researchers also found that rigor unfolds over the course of a school year. As students become accustomed to teacher demands and improve academic skills, the teachers adjust their demands and, among other modifications, design activities that give students increasingly more autonomy.

This full report can be accessed online at www.merc.soe.vcu.edu/dissemination/reports.