The Effects of Teachers’ Qualifications, Practices, and Perceptions on Student Achievement in TIMSS Mathematics: A Comparison of Two Countries

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This study focused on comparing mathematics teachers’ qualifications, practices, and perceptions between Saudi and Taiwanese schools. Data analyzed in this study were the responses of mathematics teachers to the Teacher Background Questionnaire—8th Grade from the Trends in International Mathematics and Science Study (TIMSS) in 2007. The Saudi sample consisted of 171 teachers while the Taiwanese sample consisted of 152 teachers. The comparison between the two countries revealed that there were significant differences in teachers’ preparation for teaching specific mathematics topics, professional development programs, and in teachers’ perceptions about the effects of school environment on students’ TIMSS scores. In addition, the two countries’ results differed in the mathematics topics that had not been taught to students, in assessment tools commonly used in mathematics, and in the type of questions used in tests. Some teachers’ qualifications and practices were found to be related to students’ scores. Results are discussed and recommendations for educators and policymakers are proffered.

Keywords: achievement, international testing, mathematics, teachers’ practices, teachers’ qualifications, TIMSS

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