

## **Series Foreword**

“U.S. students lag around average on international science, math, and reading test” (Layton, 2013). This headline, published in the *Washington Post* after the 2012 Program for International Student Assessment (PISA) test results were released, epitomizes the response of many journalists, politicians, and policymakers to the performance of U.S. students on standardized tests. After describing the mediocre performance of U.S. students on the PISA, this news story praised the high achievement of students in “Shanghai, Singapore, and other provinces or countries.”

The mean PISA scores of students in various nations do not reveal a number of interesting and significant educational trends and developments. Linda Darling-Hammond (2010) points out that the scores of Asian and White students in the U.S. are above the Organization for Economic Cooperation and Development (OECD) average in each subject area. However, when the scores of African American and Latino students are added, the U.S. national average drops to the bottom of the ranked scores. She makes this point to emphasize the important ways in which the fate of the U.S. is tied to the future success of ethnic minority students such as African Americans and Latinos. Students in South Korea are among the highest performing students on the PISA. However, when I visited South Korea in the spring of 2013, many of the educators with whom I interacted were bemoaning the extreme pressure that was being put on Korean students to perform well on achievement tests and were complaining that the emphasis in South Korean schools was on teaching students to memorize facts in textbooks rather than on teaching them to think critically. Ironically, as the U.S. is emphasizing the mastery of basic skills and student performance on standardized tests, many educators in South Korea and China believe that the schools in their nations should increase the focus on teaching students to think critically.

This revealing and engaging book is timely and important because it describes and illustrates ways in which students can both acquire the knowledge and skills they need to be mathematically adept as well as to think critically. This book describes how the students at Railside not only acquired sophisticated mathematical concepts and skills and learned to think mathematically, but also how they developed strong relationships with their teachers and with other students in robust learning communities. The teachers at Railside were able to create learning communities in their classrooms because they had created an effective learning community in their mathematics department.

In 1993, I stated, “equity pedagogy exists when teachers use techniques and methods that facilitate the academic achievement of students from diverse racial, ethnic, and social-class groups” (Banks, p. 6). The teachers at Railside

used Complex Instruction—a concept created by Elizabeth Cohen and further developed by Rachel Lotan (Cohen & Lotan, 2004; Lotan, 2012)—to implement equity pedagogy. “Multidimensionality” is an important idea of Complex Instruction that was implemented at Railside. It conceptualizes academic tasks as involving multiple skills, and assumes that no student is equally competent in each of them, but that collectively the group is competent in all of them. By using groupwork to teach high-level mathematical skills and concepts, each student within a group was able to make a significant contribution to the solution of problems. The teachers at Railside valued many dimensions of mathematical work and encouraged students to solve problems in myriad ways.

When the teaching of mathematics is reformed in the creative, challenging, and affirming ways described by the authors of this helpful, needed, and affirming book, all students will benefit and flourish, including the large number of immigrant students who are now populating the nation’s schools. Students whose first language is not English is the fastest-growing population in U.S. schools. The 2010 American Community Survey indicates that approximately 19.8% of the school-age population spoke a language at home other than English in 2010 (U.S. Census Bureau, 2010).

American classrooms are experiencing the largest influx of immigrant students since the beginning of the 20th century. Almost 14 million new immigrants—documented and undocumented—settled in the United States in the years from 2000 to 2010. Less than 10% came from nations in Europe. Most came from Mexico, nations in Asia, and nations in Latin America, the Caribbean, and Central America (Camarota, 2011). A large but undetermined number of undocumented immigrants enter the United States each year. The U.S. Department of Homeland Security (2010) estimated that in January 2010, 10.8 million undocumented immigrants were living in the United States, which was a decrease from the estimated 11.8 million that resided in the United States in January 2007. In 2007, approximately 3.2 million children and young adults were among the 11.8 million undocumented immigrants in the United States, most of whom grew up in this country (Perez, 2011). The influence of an increasingly ethnically diverse population on U.S. schools, colleges, and universities is and will continue to be enormous.

The major purpose of the Multicultural Education Series is to provide pre-service educators, practicing educators, graduate students, scholars, and policy-makers with an interrelated and comprehensive set of books that summarizes and analyzes important research, theory, and practice related to the education of ethnic, racial, cultural, and linguistic groups in the United States and the education of mainstream students about diversity. The dimensions of multicultural education, developed by Banks (1993) and described in *The Routledge International Companion to Multicultural Education* (Banks, 2009) and in the *Encyclopedia of*

*Diversity in Education* (Banks, 2012), provide the conceptual framework for the development of the publications in the Series. They are content integration, the knowledge construction process, prejudice reduction, an equity pedagogy, and an empowering institutional culture and social structure.

The books in the Series provide research, theoretical, and practical knowledge about the behaviors and learning characteristics of students of color, language minority students, low-income students, and other minoritized population groups, such as LGBTQ youth. They also provide knowledge about ways to improve academic achievement and race relations in educational settings. Multicultural education is consequently as important for middle-class White suburban students as it is for students of color who live in the inner city. Multicultural education fosters the public good and the overarching goals of the nation.

This book is encouraging because it describes and illustrates ways in which the teaching of mathematics can be reinvented so that students from diverse racial, ethnic, cultural, and linguistic groups can master complex mathematical knowledge and skills, which Robert P. Moses and Charles E. Cobb Jr. (2001) call a “civil right” because quantitative skills are essential to become an effective and successful citizen in our highly technological and global society. This book, however, is also a cautionary and discouraging saga because it describes how a series of bureaucratic and budgetary decisions by administrators derailed the innovative, creative, and empowering program that the teachers in the mathematics department at Railside created and sustained for a number of years. A powerful and poignant lesson of this book is that an effective pedagogical program that takes years to create can be quickly destroyed by hasty and unimaginative administrative decisions.

—James A. Banks

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# Acknowledgments

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Many mathematics teachers at Railside have said that, in retrospect, the work was the most invigorating of their careers, and also the most difficult. The challenge and passion in that work created an extraordinary learning opportunity for all of us. Our ongoing work as educators is continuously inspired by the courage and love of learning shown by the thousands of students we have been fortunate to meet and the many teachers who it has been our privilege to work alongside.

As editors planning this book, we could not help but tell one another stories of students and colleagues, and all they have taught us. We felt an enormous obligation to accurately capture the spirit of the stories—ours and theirs—as well as the details of the work and the many contributions from dozens of remarkable educators. If we have done justice to those students and teachers, then perhaps this book will inspire more stories from teachers who love their students as much as we have loved ours.

We are grateful for the love we have received from our families and friends, especially those who were wonderfully supportive in the creation of this book as well as when we immersed ourselves in our classrooms. We are deeply thankful to the many administrators, counselors, staff, and nonmathematics teachers at Railside, without whom the work described in this book could not have happened. We wish space and memory would allow us to name them all individually and to acknowledge what each has taught us.

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