

PREFACE

How might we empower students to use mathematics to explore, understand, and respond to social injustices?

Mathematics, like many other forms of knowledge, is situated in social and cultural contexts. Too often, students experience school mathematics as something that is unfamiliar and detached from any meaningful context. This leaves many students with the sense that mathematics is inaccessible and not connected to their ways of knowing and the resources that they bring to the mathematics classroom.

This book will introduce many teachers to teaching mathematics for social justice and serve as a resource for those who have already begun this journey. Teaching mathematics for social justice means using the wealth of cultural and social knowledge students bring with them to the mathematics classroom to help them access and deepen their understanding of mathematics. This then becomes a tool—or a lens—through which students can understand and critique their worlds and thus promote a democratic society that advocates for social change (Frankenstein, 1997). Teaching mathematics for social justice uses mathematics as a jumping-off point to explore, understand, and respond to issues of social injustice and to support arguments and actions aimed at promoting change.

We know that you make many decisions about the learning opportunities that will shape your students' mathematical experiences, two of which are the instructional practices and tasks you choose to use daily. The first decision requires that you learn or deepen your understanding about how such topics as social justice pedagogy, critical consciousness, culturally responsive pedagogy, and teaching mathematics for social justice inform your current instructional practices. The second decision calls on you to investigate how to infuse tasks set in social injustice contexts into your mathematics classroom. The challenge for both decisions is to study the social justice–related topics the same way you would a mathematical concept, such as teaching quadratic functions. The social justice issue must fit the mathematics you want to teach, rather than forcing the mathematics to fit a social justice issue. Mathematics is the tool, and social justice issues can use the tool to understand and critique the world.

To all of the teachers, continue to read and build your understanding of the topics related to teaching mathematics for social justice. It is not only important to have the tools to teach mathematics for social justice, but also equally important that nurturing spaces are afforded for all students such that the environment reflects inclusive, just, and equitable spaces.

To teacher leaders and coaches, embrace this opportunity to walk beside the teachers you lead and support as they begin or continue their journey of using

mathematics as a tool to examine social justice issues in their classroom. Model for them some of the teaching strategies and suggestions that are included in this book. Encourage them to learn about their students and how they can incorporate their students' lived experiences and issues of interest into the classroom.

To administrators, most of the social justice issues included in this book come from outside of the traditional mathematics textbook and might require you and mathematics teachers to take risks. In Chapter 2, we provide guidance for teachers to consider before teaching a social justice lesson and encourage them to collaborate with other colleagues so that they can make connections to topics and issues that might arise in other subject areas. For example, your environmental science teacher might discuss climate change, which would have a nice cross-curricular connection to Lesson 6.2, *Climate Change in Alaska*. Your support in providing time for teachers to meet allows for cross-curricular connections and will go a long way in helping mathematics teachers expand their instructional toolkit.

To district mathematics leaders, support the work of teachers but also make sure the integrity of the mathematics teaching and learning, as well as the social justice topics, is maintained. Mathematics content should not be sacrificed, and social justice issues should be given due diligence. Help teachers identify opportune times when they can infuse a social justice topic into their classroom. Use this book as a resource to embed experiences into your professional development offerings for teachers to deepen their understanding of teaching mathematics for social justice and other related topics.

To mathematics teacher educators and professional development providers, we invite you to infuse social justice issues into teacher preparation and professional development opportunities. Model ways that teachers can find and fit mathematics with social justice issues, and provide opportunities to critically examine lessons and topics.

We applaud you for taking time to delve into *High School Mathematics Lessons to Explore, Understand, and Respond to Social Injustice* and look forward to hearing about your journey.

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