

What Your Colleagues Are Saying . . .

This book is for any educator, parent, and activist who understands that education is not neutral, for any citizen of this world who believes that a quality education allows its recipients to understand, thrive, and transform their world. An education thusly positioned changes lives and benefits humanity.

Lisa Williams

Partner, Equity in Education
Baltimore, MD

Teaching Mathematics for Social Justice, Grades K-12: A Guide for Moving From Mindset to Action is a thoughtfully designed guide that helps math educators know their children, use practices to highlight their strengths, and ensure the math they teach is relevant. This book will assist you in designing experiences for children to learn mathematics skills and concepts and use them to make the world a better and more just place! Begin your journey as a culturally relevant educator by taking this guide and using it to reimagine your math classroom.

Georgina Rivera

NCSM Vice President and Principal
West Hartford, CT

In a climate where equity and diversity efforts are under attack, Childs and Staley courageously advocate for teaching mathematics for social justice. Their framework centers children, incorporates standards-based mathematics instruction as well as culturally relevant and responsive teaching, and has equity as its foundation. This book is a must read for K-12 teachers who want to engage in continuous improvement of their instructional practices.

Kyndall Brown

Executive Director, California Mathematics Project
Los Angeles, CA

Teaching Mathematics for Social Justice, Grades K-12: A Guide for Moving From Mindset to Action is a book that helps educators develop a framework for teaching mathematics with a focus on social justice. Each chapter of the book includes a “Reflect and Action” box, which guides readers to think critically throughout their journey toward teaching mathematics for social justice. Overall, this book is a useful resource for those who are committed to promoting social justice in their mathematics teaching practices.

Robert Q. Berry III

Dean & Professor, College of Education, University of Arizona
Tucson, AZ

Enhance your justice journey with this excellent resource. Offering accessible and actionable guidance to effectively integrate a Teaching Math for Social

Justice approach in K-12 classrooms, this book includes practical tools and tasks to plan, enact, and reflect on instruction that centers children, cultivates joy, and sparks action to make a positive difference in our world with mathematics.

Julia Aguirre

Professor, University of Washington Tacoma
Renton, WA

Childs and Staley have created a practical and powerful resource for teachers who are looking to design inclusive classrooms and working to ensure that ALL students have access to rigorous and important mathematics instruction. This will be a valuable resource that I will undoubtedly return to for guidance and support as I continue to engage in this work.

Zak Champagne

Lead Teacher, The Discovery School
Jacksonville, FL

Teaching Mathematics for Social Justice, Grades 6-12: A Guide for Moving From Mindset to Action offers a transformative framework for educators to cultivate equity in the classroom. From understanding personal biases to engaging communities, this guide provides practical strategies to empower teachers and students alike, making it a must-read for anyone committed to social justice in education.

Pamela Seda

Co-author, *Choosing to See: A Framework for Equity in the Math Classrooms*
Atlanta, GA

Childs and Staley have developed an engaging and easy-to-read practitioner's blueprint for teaching mathematics for social justice by providing entry points for everyone, no matter the level in which they already engage. Thoughtfully planned examples, reflections, and next steps create for a practical learning experience for educators.

Crystal M. Watson

Consultant, Crystal M. Watson Consulting
Cincinnati, OH

Teaching Mathematics for Social Justice

Grades K–12

Teaching Mathematics for Social Justice

Grades K–12

A Guide for Moving From Mindset to Action

Dr. Kristopher J. Childs
Dr. John W. Staley

CORWIN Mathematics

Copyrighted Material
www.corwin.com



For information:

Corwin
A SAGE Company
2455 Teller Road
Thousand Oaks, California 91320
(800) 233-9936
www.corwin.com

SAGE Publications Ltd.
1 Oliver's Yard
55 City Road
London, EC1Y 1SP
United Kingdom

SAGE Publications India Pvt. Ltd.
Unit No 323-333, Third Floor,
F-Block
International Trade Tower Nehru
Place
New Delhi - 110 019
India

SAGE Publications
Asia-Pacific Pte. Ltd.
18 Cross Street #10-10/11/12
China Square Central
Singapore 048423

Vice President and Editorial Director:
Monica Eckman
Associate Director and Publisher,
STEM: Erin Null
Senior Editorial Assistant:
Nyle De Leon
Production Editor: Tori Mirsadjadi
Copy Editor: Diana Breti
Typesetter: Integra
Proofreader: Lawrence W. Baker
Indexer: Integra
Cover Designer: Scott Van Atta
Marketing Manager:
Margaret O'Connor

Copyright © 2025 by Corwin Press, Inc.

All rights reserved. Except as permitted by U.S. copyright law, no part of this work may be reproduced or distributed in any form or by any means, or stored in a database or retrieval system, without permission in writing from the publisher.

When forms and sample documents appearing in this work are intended for reproduction, they will be marked as such. Reproduction of their use is authorized for educational use by educators, local school sites, and/or noncommercial or nonprofit entities that have purchased the book.

All third-party trademarks referenced or depicted herein are included solely for the purpose of illustration and are the property of their respective owners. Reference to these trademarks in no way indicates any relationship with, or endorsement by, the trademark owner.

Printed in the United States of America.

Paperback ISBN 978-1-0718-4694-0

This book is printed on acid-free paper.

24 25 26 27 28 10 9 8 7 6 5 4 3 2 1

DISCLAIMER: This book may direct you to access third-party content via web links, QR codes, or other scannable technologies, which are provided for your reference by the author(s). Corwin makes no guarantee that such third-party content will be available for your use and encourages you to review the terms and conditions of such third-party content. Corwin takes no responsibility and assumes no liability for your use of any third-party content, nor does Corwin approve, sponsor, endorse, verify, or certify such third-party content.

CONTENTS

Acknowledgments	xi
About the Authors	xiii
INTRODUCTION	1
What This Book Is About	2
Who This Book Is For	4
How This Book Works	4
How You Can Use This Book	7
A Note About Language	7
PART 1 • A SOCIAL JUSTICE MATHEMATICS TEACHING FRAMEWORK	11
1 TEACHING MATHEMATICS FOR SOCIAL JUSTICE: WHAT IS IT AND WHY DOES IT MATTER?	12
A Vision of Equity in the Mathematics Classroom	12
The Social Justice Mathematics Teaching Framework	14
Becoming a Social Justice Mathematics Educator	18
Summary	24
Where to Next?	26
2 MIRRORS: UNDERSTANDING YOURSELF	27
My Identities Matter	27
Identifying My Biases and Beginning the Work to Address Them	32
How Does Whiteness Show Up in the Mathematics Classroom?	36
Summary	41
Where to Next?	43
3 WINDOWS: UNDERSTANDING YOUR CHILDREN	44
My Children's Identities Matter	44
How do Various Identities Play a Particular Role in My Classroom?	48
Summary	51
Where to Next?	53

PART 2 • THE MATHEMATICS EXPERIENCE	55
4 ENVISIONING THE IDEAL MATHEMATICAL ENVIRONMENT FOR TMSJ	56
Cultural Responsiveness	58
Community	59
Collaboration	62
Summary	67
Where to Next?	69
5 ENGAGING CHILDREN IN THE TMSJ CLASSROOM	70
Equitable Mathematics Teaching	70
A Balanced Approach to Nurturing Children’s Understanding	71
Engaging Children in Rich Problem-Solving Tasks	75
Opportunities to Showcase Children’s Thinking	82
Engaging Children Beyond the Classroom	85
Summary	86
Where to Next?	88
PART 3 • BRINGING SOCIAL JUSTICE ISSUES INTO YOUR CLASSROOM	89
6 PLANNING A TMSJ EXPERIENCE	90
Brainstorming and Selecting a Social Justice Issue for a TMSJ Experience	90
Planning for the Social Justice Context Level	95
Supporting Children in the TMSJ Classroom	96
Bringing the Social Justice Issue into Your Classroom	100
Summary	102
Where to Next?	104
7 IMPLEMENTING TMSJ IN THE CLASSROOM	105
Implementing a Social Justice Mathematics Lesson	105
Social Justice Mathematics Lesson Components	108
Summary	114
Where to Next?	115
8 TAKING ACTION BEYOND THE CLASSROOM	116
Experiences Beyond the Classroom	116
Keys to Engaging Families and the Community	119
Effective Ways to Involve Administrators	121
Showcasing and Celebrating Your Impact	122
Summary	123
Where to Next?	124

PART 4 • SUPPORTING AND GROWING YOUR PRACTICE 125

9	BUILDING A COMMUNITY OF COLLABORATORS	126
	Who Is in Your Community of Collaborators?	126
	Building a Core Group of Collaborators	131
	Growing a Community of Collaborators	134
	Summary	135
	Where to Next?	136
10	LEAVING YOUR LEGACY	137
	Understanding Your Why	137
	Recognizing Your Influence	140
	Summary	142
	Where to Next?	143
	EPILOGUE	144
	APPENDIX A TMSJ Action Plan	147
	APPENDIX B Family Letter About Math Class	153
	APPENDIX C SAMPLE TMSJ LESSONS	154
	Grades K-2	
	Lesson 5.4 Examining Air Quality	155
	Lesson 5.13 Early Elementary Mathematics to Explore People Represented in Our World and Community	166
	Grades 3-5	
	Lesson 5.1 Families Matter	178
	Lesson 5.6 Challenging Ableist Assumptions in Mathematics Problems	189
	Grades 6-8	
	Lesson 7.2 The True Cost of That \$29 T-Shirt in the Store Window	199
	Lesson 9.4 How Many Meals Can Minimum Wage Buy?	206
	High School	
	Lesson 5.3 Listen to GLSEN	217
	Lesson 7.5 Humanizing the Immigration Debate	228
	References	237
	Index	241



Visit the companion website at
<https://qrs.ly/wbfixtr>
for downloadable resources.

Note From the Publisher: The authors have provided video and web content throughout the book that is available to you through QR (quick response) codes. To read a QR code, you must have a smartphone or tablet with a camera. We recommend that you download a QR code reader app that is made specifically for your phone or tablet brand.

ACKNOWLEDGMENTS



Dr. Childs's Acknowledgments

I would like to take a moment to acknowledge and thank four key people who played a major role in my life and made me into the Black man I am today. During the writing of this book between 2020 and 2021, all four became ancestors. Their individual spirits gave me what I needed to complete this book. Thus, I would like to honor and acknowledge my grandfather Clarence Zinnerman, my grandmother Patsy Harris, my close friend and fraternity brother Dr. Damien Moses, and my father Obie J. Childs. I love you all and thank you for everything!

Dr. Staley's Acknowledgments

I want to thank my wife, Karen, for walking beside me and continuing to encourage me to follow God's plan. To our children, Jonathan, Alexis, and Mariah, keep chasing your dreams and changing the world. Bevelyn and Asa, you are the reason I continue this journey.

To the many mathematics leaders, mathematics teachers, educators, colleagues, and friends, thank you for the opportunity to work with and walk with you to make mathematics more meaningful, relevant, and accessible for each and every student. *Together we are changing the narrative!*

Publisher's Acknowledgments

Corwin gratefully acknowledges the contributions of the following reviewers:

Kyndall Brown
Executive Director, California Mathematics Project
Los Angeles, CA

Zak Champagne
Lead Teacher and Director of Mathematics and Diversity, Equity, and Inclusion,
The Discovery School
Jacksonville, FL

Tashana Howse
Professor of Mathematics Education, Georgia Gwinnett College
Lawrenceville, GA

Ishmael Robinson
Math Instructor, University of Minnesota
Grove Heights, MN

Crystal M. Watson
Consultant, Crystal M. Watson Consulting
Cincinnati, OH

ABOUT THE AUTHORS



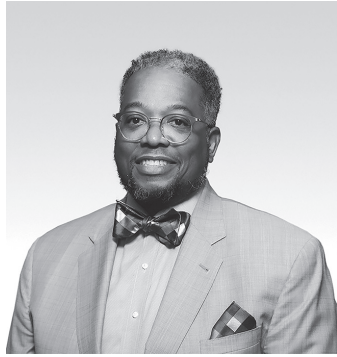
As a teacher, professor, consultant, and member of senior leadership teams, Dr. **Kristopher J. Childs** focuses on excellence in teacher content and pedagogical knowledge, equity, leadership development, and organizational change. His work is guided by his mantra, “Live life to the fullest; you only get one.”

Dr. Childs is a highly sought-after keynote speaker known for his coaching skills, storytelling, and passion. As a speaker, Dr. Childs inspires audiences to relentlessly pursue their goals and dreams. He seeks to help each find his or her passion and purpose, and his messages have been deemed “life-changing” by clients.

Dr. Childs seeks to create a movement through educating, advocating, and inspiring individuals to pursue academic excellence. Due to his student-centered approach to teamwork, faculty, staff, and students recognize him as a visionary and collaborative leader. Dr. Child’s approach helps both school and district teams that he consults achieve common goals and improve student academic success and students’ classroom experiences.

Dr. Childs is a life member in the Florida Agricultural and Mechanical University National Alumni Association and a life member in the Omega Psi Phi Fraternity, Incorporated. He earned his doctorate in mathematics education from the University of Central Florida, his master of science degree in mathematics education from Nova Southeastern University, and his bachelor of science degree in computer engineering from Florida Agricultural and Mechanical University.

He is a co-author of *Making Sense of Mathematics for Teaching Girls in Grades K-5* and author of the article “Good Mathematics Teaching is NOT Telling, It Is Facilitating.” Follow him on all social media platforms—@DrKChilds and www.kristopherchilds.com—to learn more about his work.



John W. Staley, PhD, has been involved in mathematics education for more than 35 years as a secondary mathematics teacher, adjunct professor, district and national leader, and consultant. During his career he has presented at state, national, and international conferences; served on many committees and task forces; facilitated workshops and professional development sessions on a variety of topics; and received the Presidential Award for Excellence in Teaching Mathematics and Science.

A past president for NCSM, the mathematics education leadership organization, and past chair of the U.S. National Commission on Mathematics Instruction, he continues to serve on several advisory boards and is a co-founder of Math Milestones. He is a co-author for *Middle School (2023)* and *High School (2022) Mathematics Lessons to Explore, Understand, and Respond to Social Injustice* (Corwin/NCTM); *Catalyzing Change in High School Mathematics: Initiating Critical Conversations* (NCTM); and *Framework for Leadership in Mathematics Education* (NCSM). John's current passion and work focus on changing the narrative about who is seen as being doers, learners, and teachers of mathematics, especially for African American boys and men; student readiness for algebra and success during the transition years; and building mathematics education leaders at all levels. Follow him on X—@jstaley06—to learn more about his work.

INTRODUCTION



Think back to the first time you taught a math lesson. For many of us, that day was filled with anticipation, excitement, nervousness, and we're sure a variety of other emotions as you greeted that first group of eager young math minds. Before you knew it, day one was done. You may still have many mixed emotions as you remember everything: the grade level or courses you were assigned to teach, the colleagues who worked beside you, the school and community you were embedded in, and the children you taught. Whether you knew it at the time or not, this was the beginning of your social justice journey. For many teachers, this journey began the first time they became aware that some children were not achieving at similar levels as their peers; some children were not included in or seemed to be missing from certain mathematics classes. Maybe they noticed discrepancies when they witnessed some classrooms in which students experienced rich, meaningful, engaging, collaborative learning and contrasted this with other classrooms in which students were expected to complete volumes of worksheets or textbook pages focused on repeatedly solving examples of mathematical procedures, with maybe a few word problems sprinkled in. Maybe they were involved in or overheard conversations about "what those children could not do" or "how those families did not show up."

At some point, they became aware that student achievement data could be predicted based on student characteristics and which "class" students were in. They may have acknowledged that the pattern of low performance was persistent for some children and they had a growing feeling that there had to be more they could do for the children in their classes, school, and community so that these children would have a more meaningful, relevant, and fulfilling experience in the mathematics classroom.

Pause for a moment and really think back. Was this you? Was this the start of your own Teaching Mathematics for Social Justice journey?

You are embarking on a meaningful and life-changing journey that can help you reinvigorate your professional purpose and may even have an influence on your personal life.

If you have picked this book up, it is because you

- ▶ see injustices in your educational setting and/or your community;
- ▶ see how children’s identities impact their educational experience;
- ▶ view students as youthful and innocent children to whom you owe the best mathematical learning experience you can offer;
- ▶ believe every child should receive a high-quality educational experience;
- ▶ are a committed educator who wants to focus on teaching mathematics in a way that is equitable and provides access to *all* children; and
- ▶ are an unapologetic social justice educator focused on disrupting, dismantling, and re-imagining children’s mathematical education experiences. No exceptions.

If you see, feel, or are any of these things, it is likely you are at least curious, if not committed, to looking for ways to (1) recognize and name the injustices you see in your school or district, (2) modify or expand your teaching practice in order to reach more children and provide more equitable learning experiences for all of them, and (3) disrupt and dismantle systems of oppression and inequity you see play out in K-12 education. In other words, you are someone who is on a journey to becoming a Social Justice Mathematics Educator. If this describes you, you are in the right place. You are embarking on a meaningful and life-changing journey that can help you reinvigorate your professional purpose and may even have an influence on your personal life.

What This Book Is About

This book will lead you through a transformational journey to reimagine your mathematics classroom in a way that not only better serves more children but also lifts mathematics up as a tool for them to analyze and understand the worlds around them, celebrate their unique identities and their communities, and become agents of change. It introduces the inherent inequities in children’s educational experiences and will help you learn how to address these inequities by providing children with meaningful, relevant, and liberatory mathematics learning experiences that connect to social issues that affect children’s lives and extend beyond the classroom and into their community. You will be challenged to reimagine the classroom mathematics experience and harness the potential children bring into the mathematics classroom. We call this teaching mathematics for social justice (TMSJ).

As you proceed, your focus should be on the paths to be taken, not on the destination. Along the way, you will refine your understanding of mathematical concepts and pedagogy. You will also become better able to understand the academic and instructional needs of diverse groups of children and improve your understanding of the different communities from which they come. This book will challenge you to rethink your paradigms and beliefs about the practice and purpose of mathematics instruction: What is teaching mathematics for social justice? Who are you and how do you show up in your math class? Who are your children? And what are some of the best ways to teach mathematics? Most importantly, you will receive practical techniques and examples so you can implement TMSJ in your classroom.

During your journey to becoming a social justice mathematics educator, you may at times feel supported, challenged, alone, and validated. You will be asked to take a critical look in the mirror at yourself and your practices. It may feel uncomfortable and personal; thus, it is important that you take the time you need to self-reflect. This book is designed to challenge and push your thinking but also to give you the time and space needed to expand your critical consciousness of your mathematics instruction—considering who it serves and how it serves them—in a way that is safe. You may, at times, experience cognitive dissonance, and you may even sometimes feel defensive. But all good educators know that it is only through that dissonance and vulnerability that we grow. The key is to be gentle but honest with yourself and keep pushing forward. If you falter, make a mistake, or feel stuck at some point, that is OK. It is to be expected, but you can and will get up and keep growing.

It's also important to recognize that this journey never ends. If done well, your journey will last throughout your career. You can start with the small steps this book describes and encourages, and you'll gradually be able to take bigger and bigger leaps. Along the way, you'll be shaping the hearts and minds of the children in your care, helping to empower them to use their own mathematical brilliance to become agents of change. Just remember, the best part of any journey is the journey itself, not the destination. As you embark on the journey through the four parts in this book, you will find that the chapters in each offer practical stepping stones and actions you can take to help you better understand yourself and serve your children, make sense of their values and their communities, refine the concept of mathematics, rethink your paradigm and beliefs, critically evaluate your mathematical instructional practices and resources, plan and enact a social justice mathematics experience, and learn to collaborate with students, other education professionals, and outside collaborators as you build a community dedicated to helping children use mathematics to leave a lasting change.

Who This Book Is For

We wrote this book for K-12 teachers, coaches, administrators, and preservice teachers because each plays a critical role in children's mathematical learning and engagement:

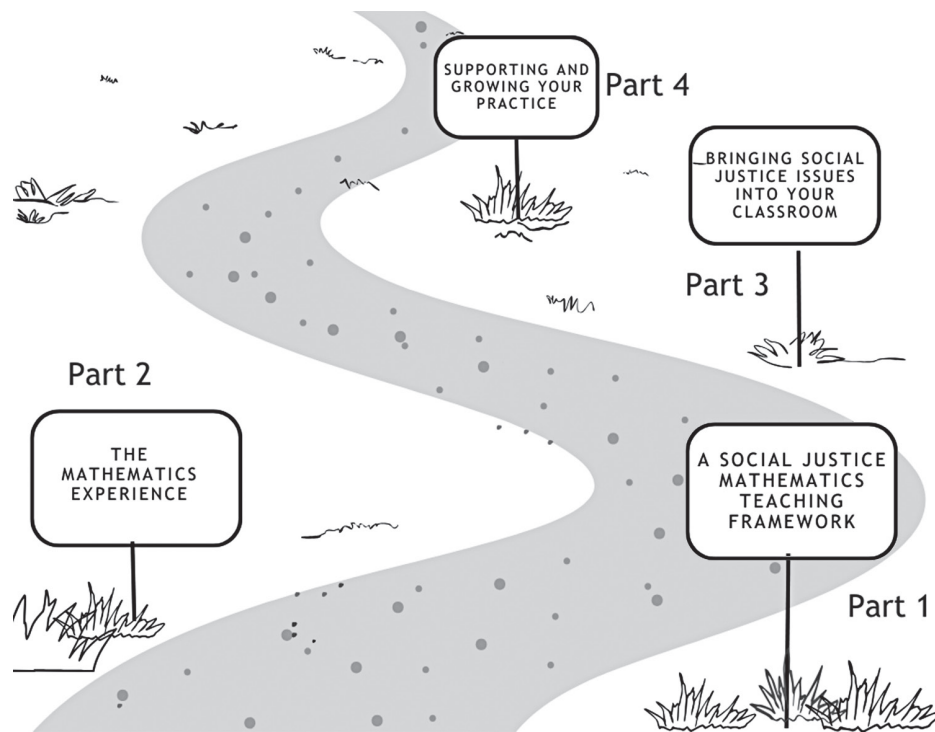
- ▶ Teachers help authentically engage children and bring meaning to mathematics lessons. Teachers who want to move beyond compliance-based lessons that feel irrelevant to children and move toward lessons with a greater impact on meaningful learning will benefit from this book.
- ▶ Coaches help guide the creation of impactful mathematics experiences that prepare children for life outside of school and help them see how to use mathematics to understand the world.
- ▶ Administrators understand inequities occurring under their purview with a focus on improving student achievement and understanding that the opportunity gap as status quo is no longer acceptable.
- ▶ Preservice educators prepare their students not for the classroom that exists but the classroom that is on the horizon by helping develop a lens of understanding for a population of children destined for greatness.

How This Book Works

Because we think of becoming a social justice educator as a journey, this book is laid out accordingly. The journey consists of four main parts, each of which includes several chapters (see Figure i.1).

- ▶ **Part 1 A Social Justice Mathematics Teaching Framework** starts the journey by introducing TMSJ, as we pause to look in the mirror (self-reflect) and look through the windows at our children. Chapter 1 focuses on making sense of TMSJ. Chapter 2 then provides you with an opportunity to reflect on who you are as you enter this work, and in Chapter 3 we take time to learn about the children we serve and who will be impacted by this work.
- ▶ **Part 2 The Mathematics Experience** continues the journey with a focus on the ideal mathematical environment for TMSJ. Chapter 4 introduces the cornerstones for creating an ideal mathematics environment that centers your children's culture, fosters a sense of community, and encourages collaboration. Chapter 5 looks at the fourth cornerstone, the importance of engaging all children so that they can reach their potential.

i.i Your TMSJ Journey



- ▶ **Part 3 *Bringing Social Justice Issues Into Your Classroom*** focuses on bringing TMSJ to life through making sense of social justice issues and incorporating them into the classroom. Chapter 6 focuses on the practical keys of how a TMSJ lesson comes together, from selecting a social justice issue to planning for supports for your children to access the mathematics and context of the social issue. We then walk you through the implementation of a social justice mathematics lesson with examples in Chapter 7 and wrap up taking TMSJ to the next level by considering how to take action beyond the classroom in Chapter 8.
- ▶ **Part 4 *Supporting and Growing Your Practice*** concludes the journey with building a community of collaborators and a deep reflection about where you can go from here. Chapter 9 explores the various roles collaborators—children, families, other educators, and community members—might play in your journey and the benefits of growing a community of collaborators to walk beside you. We wrap up the journey in Chapter 10 by looking back at your “Why” and looking forward to the future and the legacy you are charting on your TMSJ journey.

Throughout the journey, features are included to provide practical next steps to begin incorporating TMSJ in your classroom and time to reflect upon what

you want for yourself and your children. Each feature provides opportunities for you to interact with the chapter and document your insights, wonderings, and noticings along the journey as you begin to make changes, either small scale or large scale, to move forward in the process of creating high-quality mathematics experiences for all the children in your classrooms and to engage in meaningful and sustainable action.



- ▶ **Check-In:** This feature provides you with an opportunity to engage in a quick practical activity to apply what you have learned in the chapter.



- ▶ **Try This:** This feature consists of activities to help you apply the chapter content to your local setting: self work, your classroom, your school, or your community.



- ▶ **Reflect and Act:** This feature is included at the end of each chapter so that you can reflect on the TMSJ techniques and strategies discussed. In **Reflect** a series of rhetorical questions are provided so you can recall key takeaways from the chapter and consider how the information shared in the chapter applies to you, your children, and your mathematics environment. **Act** calls on you to document those key takeaways and next steps for continued learning and application to extend your thinking and enhance your work. In addition, activities similar to Try This are included to help you apply what you have learned in the chapter and begin to make changes.



- ▶ **The TMSJ Action Plan:** This is a tool that provides space for you to record your key takeaways from each of the chapters and Next Steps to support you as you continue through each stage of your social justice mathematics teaching journey. This tool is available for download at <https://qrs.ly/wbfixtr>
- ▶ **Where to Next:** This section serves as a bridge between chapters and provides you a preview of the next chapter's content.
- ▶ **Conversations With Dr. Childs and Dr. Staley:** QR codes link to audio recordings of the authors sharing their thinking as they navigated the writing of this book. You will gain insights into their takeaways, challenges they are still thinking about, and hope for future work as they continue their TMSJ journey.

How You Can Use This Book

This book is not designed to be read cover to cover and then placed on a bookshelf as a reference book. *Teaching Mathematics for Social Justice, Grades K-12: A Guide for Moving From Mindset to Action* was intentionally designed for reflection, interactivity, and action. Use this as a guidebook to help unpack who you are as an educator while simultaneously learning the tools necessary to transform your mathematics environment. Teachers can use it individually, in a professional learning community, or within a book study. In addition, this book can be used with preservice teachers who are seeking to enhance their instructional strategies as they prepare for the classroom. This book is not designed to be a quick over-the-weekend read; however, it is designed to expand your thinking and help you evolve as an educator. Give yourself ample time to work through the book—including the reflection and application elements—and make sense of the material being presented. Finally, the key to having a successful experience with this book is keeping a child-centered mindset and continually reflecting on the question “Do children in schools deserve better mathematics education experiences?”

The key to having a successful experience with this book is keeping a child-centered mindset and continually reflecting on the question “Do children in schools deserve better mathematics education experiences?”

A Note About Language

Throughout this book, we have been very deliberate about the language we choose to use. Language has power, is fluid, and is ever-changing. Language can be a vehicle for change; it can reinforce power dynamics and forms of domination, or it can interrupt them. This is especially true in the ways we talk about historically excluded identities pertaining to race, ethnicity, socioeconomic status, and gender. These identities are being intentionally highlighted as, across the United States and other countries, researchers continue to use them to explain the consistent achievement gaps (Carnoy & García, 2017).

Allow us a moment to explain our choices: First, we use the word *children* instead of *students* to describe the young people we encounter in our classrooms and schools. This is intentional, as it conveys our strong belief in the innocence and humanity of the young persons served by the preK-12 educational system, approximate ages 4-18, in North America and in other countries. When people use the term *students* in the formal sense to describe someone who attends school, it can create a dissonance between children’s identities as learners and their identities as smaller, or at least younger, human beings. Also, in many schools, students are recognized by identification numbers only, a reality that further disassociates children from their personhood. So, let’s be abundantly clear: Throughout this book, we refer

to a person or persons who attend school as a *child* or as *children* for the following reasons:

- ▶ The terms *child* and *children* humanize the very real and unique persons we educators are charged to teach.
- ▶ Every child who attends school is (or was once) *someone's* pride and joy. Therefore, as teachers, we need to value them just as much as their communities, families, and other loved ones do.
- ▶ A person is always considered a child to his, her, or their family or community elders, whether he, she, or they are the youngest of school attendees or about to graduate from high school.
- ▶ Given their innate youthfulness, innocence, and humanity, *all* children are deserving of life, love, and respect—in and out of the school setting.

Further, we use the term *Black* as a more inclusive term and to recognize there are Black people all over the world. We use the term in the context of race and culture and to center Black people's place in the historical narrative of the universe.

Melanated and *non-melanated* will be used in the book to decenter whiteness further. Often folx use the phrase “people of color” to describe non-white-identifying people. However, this phrase centers whiteness. We must consider that globally, at least three-quarters of the people are non-white and “people of color” subjects the global majority to a white-centered lens (Welsing, 2004). Thus, the intentional use of the term *melanated* to refer to folx who have high concentrations of melanin in their skin properly acknowledges their place in a global view. In addition, *non-melanated* will be used to refer to folx who identify as white.

Folx will be used to intentionally and explicitly signal the inclusion of groups commonly or historically excluded (Merriam-Webster, n.d.). In the work of TMSJ we must have a keen focus on historically excluded groups of folx, which further signifies a decentering of whiteness within the work.

Environments will be used as an all-inclusive term when referring to anything related to a learning location; that is, it is not limited to the traditional “in the building” classroom. *Environments* can also refer to the school building itself, the community, the home—essentially anywhere a child can gain knowledge and information.

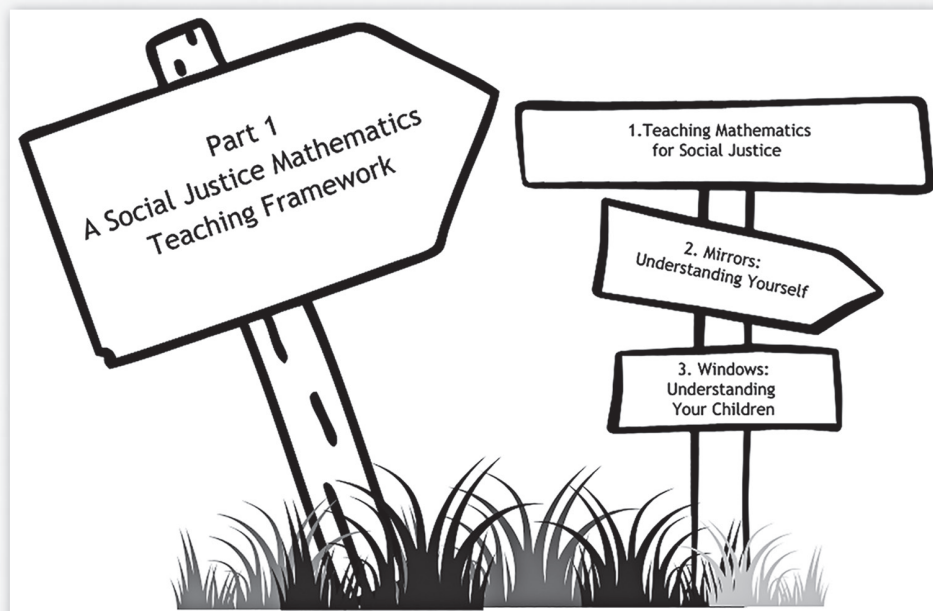
This book will also have a keen focus on strengths-based language, as opposed to deficit-based language. If we are going to reimagine mathematics educational experiences, a key component is rethinking the language we use in education. Often, stakeholders use a deficit lens when children aren't from the majority group. For example, the term *minority* is used to describe non-white

children. We often place children in student groups with deficit-based descriptors, such as English Language Learners (which centers English) and students with disabilities (as opposed to focusing on their abilities). Collectively, we as mathematics educators need to work to reframe our use of language. This book will be a tool in that process.

This book is an all-encompassing journey designed to challenge the status quo mindset of the current mathematics education experience. Keep an open mind as you embark upon this journey and allow yourself to truly experience a shift as you navigate each part and journal your insights. Some of the information presented will serve as confirmation; for others, the information presented will be brand new. However, all the information presented will be impactful and help further your journey of becoming a social justice-focused mathematics educator. This book may not be for everyone; it is intentionally designed for those who see what children currently experience in mathematics education and desire something better. You are that educator. Let's begin the journey by first making sense of the social justice mathematics teaching framework.

PART 1

A SOCIAL JUSTICE MATHEMATICS TEACHING FRAMEWORK



Your journey to becoming a social justice mathematics educator begins here. Before you can enact change in your educational environment, it's critical to first understand some of the foundations of what teaching mathematics for social justice (TMSJ) is and why it matters (Chapter 1). It is equally important to situate yourself in this work and take a deep look internally to learn what drives you in this work and in your worldview (Chapter 2), as well as what drives your children and how you can come to understand them better (Chapter 3). These are the goals of Chapters 1 through 3. Let's take the first step on the journey.

1

TEACHING MATHEMATICS FOR SOCIAL JUSTICE: WHAT IS IT AND WHY DOES IT MATTER?

Every journey has a starting point where you take a moment to set your sights on your next destination carefully. As mathematics educators navigating social justice, we realize that each of us has our own beginning point, reasons for taking this journey, and destination, so we hope that this guide will help you navigate to your “next destination.” In this chapter, our journey begins as you

- ▶ imagine a vision of what equity looks like in the mathematics classroom,
- ▶ explore the social justice mathematics teaching framework, and
- ▶ consider the components of becoming a social justice mathematics educator.

A Vision of Equity in the Mathematics Classroom

As 21st century mathematics educators, we must begin reimagining what mathematics looks and feels like in the minds and experiences of our children. It is they who will write tomorrow’s history. All children enter their school careers with curious minds. As they move through their school years, they strive to understand the purpose of school and life. Educators, likewise, often grapple with connecting what they are teaching to the children’s lives, and even to their own, often asking, “How can I make mathematics come alive, feel exciting, relevant, and meaningful for my children?”



Check In

As you reflect on that question, challenge yourself to think beyond the norm and imagine a mathematics experience that is inviting for all children. Jot down some words, phrases, or images of what that looks like in the space below.

Let's look at this question through the metaphor of video games. Since their invention, video games have fascinated children and adults alike. Modern video games depict fantasy worlds with endless possibilities offering an exciting alternative reality that helps players explore and problem-solve as a way of making sense of an imaginary world that has challenges and goals within it. Many video games are collaborative, flexible, responsive, involve building and creating, and prize the journey over the destination. There are multiple entry points, multiple destinations, and rarely any prescribed pathways, thus leaning into exploration. These virtual worlds are the kinds of environments that attract children, that children thrive in, and that children *want* to invest their time in.

Unlike video games, the traditional U.S. school system is rigid: educators receive static guidelines (standards) and predetermined pathways (textbooks). They have one single way to win the game (test scores). For students, the school system programs them to log in (start school) and assimilate by following a prescribed pathway (grade levels and disconnected subjects). Stakeholders measure children's performance against their peers and according to specified ideals (more test scores and grades). And if they do everything right, children get to log out (graduate) and become a member of society.

Ironically, the education system also demands that educators prepare children for adulthood and careers in which they must collaborate, problem-solve, communicate, adapt, evolve, create, and imagine. Table 1.1 looks at our current educational system and begins to envision a new system.

This new education system calls on us to acknowledge that as mathematics educators, as social justice educators—no, as *social justice mathematics*

Table 1.1. *Reimagining the Educational System*

What we have is . . .	What we need is . . .
An outdated system of education run like a machine that is designed to produce factory workers.	A system that allows children to explore, solve problems, collaborate, communicate, adapt, evolve, create, and imagine.
A system that takes many inputs (children from various backgrounds) and tries to create a single kind of output (assimilated children), who are then expected to live in a society that was never designed for most of them.	A system that honors all children's unique brilliance and contribution—a system that helps them make sense of and shape the worlds they inhabit so they can build a society that works for all of them.
A system that has produced adults who proudly claim, "I'm not a math person" or "I can't do math."	A system in which adults have confidence in their abilities to use mathematics in their daily life and careers.

educators—we have the responsibility to change the current reality in which, at least in the United States, by the time most children finish their state-mandated, preK-12 schooling—if they even complete it at all—their achievement levels in various educational domains dictate the kind of jobs they may have and how much money they might earn. Becoming a social justice mathematics educator calls on us to envision more for our children and write a new narrative for their future.

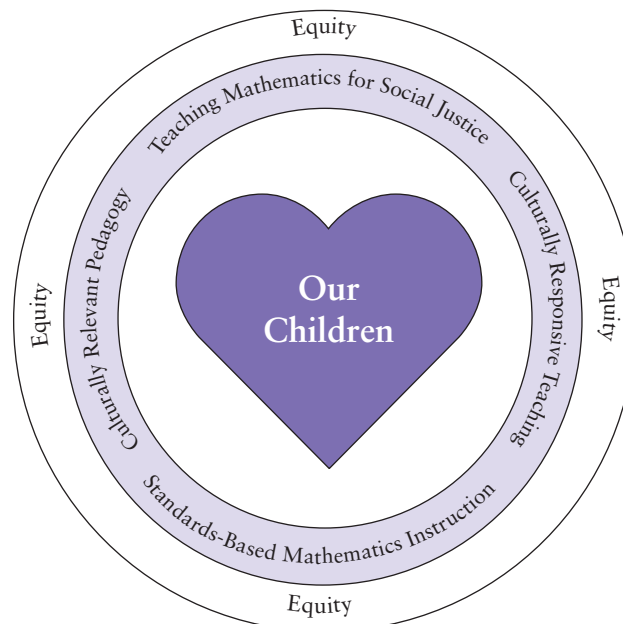
The Social Justice Mathematics Teaching Framework

As you envision your future mathematics classroom, you may be asking, *What's social justice got to do with the teaching and learning of mathematics? Do I even want to start down this road?* Take a moment to look at the social justice mathematics teaching framework (Figure 1.1).

This framework consists of five elements: equity, standards-based mathematics instruction, culturally relevant pedagogy, culturally responsive teaching, and teaching mathematics for social justice (TMSJ). In the framework, we intentionally place equity at the outer edge, and the other four elements come together to achieve the ultimate goal of equity:

- ▶ **Standards-based mathematics instruction** emphasizes the importance of developing—in balance—children's understanding of concepts and procedural fluency, in a discourse-rich setting.

Figure 1.1. Social Justice Mathematics Teaching Framework



- ▶ **Culturally relevant pedagogy** helps children truly understand their own and other cultures and develop a sociopolitical lens.
- ▶ **Culturally responsive teaching** incorporates children’s lived experiences into their mathematics learning experiences.
- ▶ **Teaching mathematics for social justice** operationalizes the other three elements, helping children see how to use mathematics as a catalyst for social change.

It is imperative on the TMSJ journey that one embraces a truly equitable stance to ensure every child has access to relevant and meaningful grade-level mathematics and receives what they need to be academically successful. Each element will be further unpacked in future chapters.

Which “elements” of the framework are you familiar with and which are you ready to learn more about?

CLASSROOM EQUITY

Now that you’ve started, take a deep breath, smile, and let’s look at the question of equity. Often in education, we have treated equity like a bobblehead doll—it looks good, feels good, bounces all around—with no agreed-upon definition to guide the authentic work to create classroom equity. NCTM (2000) states all students, regardless of their personal characteristics, backgrounds, or physical challenges, can learn mathematics when they have access to high-quality mathematics instruction. Equity does not mean that every student should receive identical instruction. Rather, it demands that reasonable and appropriate accommodations be made and appropriately challenging content be included to promote access and attainment for all students (p. 12). Gutiérrez (2012) expands on this definition of equity by adding four specific dimensions: access, achievement, identity, and power, stating that all are necessary for there to be true equity.

Often in education, we have treated equity like a bobblehead doll—it looks good, feels good, bounces all around.

- ▶ **Access** focuses on the tangible resources available to the children. If a child does not have access to the necessary tools and resources, how do we expect them to be successful? Access includes curriculum materials, technology, high-quality teachers, and an environment conducive to learning.
- ▶ **Achievement** is measured by the children’s results. Achievement goes beyond a standardized exam. It includes children’s engagement in the mathematics experience, their participation in mathematics activities in and beyond the classroom, and their performance on in-class activities and assessments.
- ▶ **Identity** gets leveraged by ensuring children have opportunities to be themselves and better themselves while doing mathematics. Children should be able to enter the mathematics experience as their full selves

and learn about their classmates during the experience. Mathematics experiences should build upon every child’s fund of knowledge they bring into the classroom.

- ▶ **Power** takes up the issues of social transformation (Gutiérrez, 2012). In TMSJ, in alignment with Gutiérrez, the power dimension is measured in terms of voice in the classroom; opportunities for mathematics to be used to assess society critically; reimagining the notion of knowledge bearing; and humanizing mathematics.

Through this definition, equity becomes tangible by making each dimension practical, feasible, and measurable over time. In other words, we can operationalize this definition. It is a practical, working definition that anyone can apply to their environment.

In an equitable mathematics classroom, individual factors and experiences, such as those listed below, are recognized, actively included, and celebrated, allowing students to reach their full learning potential.

- ▶ Race
- ▶ Culture
- ▶ Gender
- ▶ Religion
- ▶ Ethnicity
- ▶ Sexual orientation
- ▶ Immigration status
- ▶ Socioeconomic status
- ▶ Learning preferences
- ▶ Physical and/or cognitive dis/abilities

In practice, equity means all children receive necessary supports and opportunities in a timely fashion so they can develop their full intellectual, social, emotional, and physical potential to succeed.

In practice, equity means all children receive necessary supports and opportunities in a timely fashion so they can develop their full intellectual, social, emotional, and physical potential to succeed. Equity is different from equality. As described by Chardin and Novak (summarizing Boris Kabanoff), “Equality is the belief that all people have equal value as individuals and should therefore have equal inputs and outcomes. In short, equality is equal distribution where everyone gets the same thing, distributed evenly among them because everyone has the same worth” (Chardin & Novak, 2021, p. 13). But “equity, in comparison, is focused on productivity, or ensuring that everyone has what they need to be successful. This ‘fair distributive principle’ means that marginalized individuals will need significantly more inputs to have the same, or similar, outputs than individuals with privilege and power” (p. 14). TMSJ is centered on providing such supports and opportunities based on the individual child’s needs.

“In order to achieve classroom equity, all adults organizing the learning opportunities—leaders and teachers—must be willing to alter traditional beliefs and practices, adopt an adaptable learning mindset, and implement culturally responsive, engaging materials in order to prioritize success for all students”

(Childs & Davis, 2023). The last part of this statement, “must be willing to alter traditional beliefs and practices,” requires us to address school practices that have historically reflected the norms of monolingual, white, middle-class, heteronormative, cisgender, able-bodied, Christian children, and which often exclude children who come from racially and ethnically diverse cultural and linguistic backgrounds, low socioeconomic backgrounds, various religious backgrounds, those who identify as a member of the LGBTQIA+ community, children who identify as having one or more dis/ability, and those who identify with intersections of one or more of these identities.

STANDARDS-BASED MATHEMATICS INSTRUCTION

Standards-based mathematics instruction is grounded in pedagogical principles that emphasize learning for understanding over learning that focuses primarily on procedural fluency and memorization of algorithms and facts. Educators are provided a set of standards that outline the content and mathematical practices and processes all students are expected to achieve. Instruction develops in a discourse-rich environment supported by reasoning and justification (NCTM, 2014).

CULTURALLY RELEVANT PEDAGOGY

Culturally relevant pedagogy (Ladson-Billings, 1995) consists of three tenets.

- 1. Academic success:** Children’s development of their academic skills.
- 2. Cultural competence:** Utilizing a child’s culture as a vehicle for learning and providing children opportunities to learn about other children’s culture.
- 3. Critical consciousness:** Children’s development of broader sociopolitical consciousness that enables them to critique the culture norms, values, and institutions that produce and maintain social inequities.

When educators employ culturally relevant pedagogy, they purposefully engage and intentionally lift up the mathematical knowledge bases and problem-solving approaches for the full and diverse range of their students, regardless of the demographics their children present. They actively tap into the cultural backgrounds and social identities of their children and then use those characteristics as conduits for more effective teaching. The ultimate goal is to engage students in critical consciousness, which is an important aspect of K-12 education.

CULTURALLY RESPONSIVE TEACHING

Culturally responsive teaching (Gay, 2018) is defined as “using the cultural characteristics, experiences, and perspectives of ethnically diverse students as conduits for teaching them more effectively (p. 106). In culturally responsive teaching, educators value the importance of children’s racial and cultural diversity in the teaching and learning process. In addition to valuing,

educators also incorporate these components into the classroom experience. Too often, “children have to attempt to master academic tasks while functioning under cultural conditions unnatural (and often unfamiliar) to them. Children enter schools and are expected to divorce themselves from their cultures and learn according to European-American cultural norms (Gay, 2002, p. 114). As social justice educators, we must collectively work to change this narrative and ensure every child feels seen, valued, and heard.

A key differentiating component between culturally responsive teaching and culturally relevant pedagogy is the critical consciousness tenet. Culturally responsive teaching focuses on intertwining children’s cultures with the educational experience, while culturally relevant pedagogy takes it a step further: Now that you have made sense of culture(s) it is time to use that information and take action to impact society. Actions should focus on addressing inequities in society. Thus, the former is focused on solely learning new information and the latter is focused on taking action based upon the newly learned information. The action component leads to TMSJ.

TEACHING MATHEMATICS FOR SOCIAL JUSTICE

TMSJ operationalizes standards-based mathematics instruction, culturally responsive teaching, and culturally relevant pedagogy with an added element of social action. Robert Q. Berry III and colleagues (2020) take the view that “teaching mathematics for social justice (TMSJ) is about teachers emphasizing equitable opportunities for each and every student, as well as developing an orientation toward using mathematics to enact decision-making power” (p. 19).

In TMSJ, the focus is not solely on getting children to just “do something” in the classroom (e.g., perform procedural calculations on a worksheet or apply mathematics to a building project in ways they’ve been previously shown). Nor does it view children merely as empty vessels to be filled with someone else’s knowledge. Rather, the key to TMSJ lies in focusing on the goals of developing children’s positive social, cultural, and mathematics identities and, ultimately, classroom equity.

Becoming a Social Justice Mathematics Educator

We take the stance that all mathematics educators are involved in the work of social justice, which includes the following:

1. Cultivating teacher-to-children and children-to-children relationships
2. Questioning systemic structures, policies, and practices that result in inequitable children outcomes
3. Advocating for all children to have access and opportunities to rich mathematical learning experiences

4. Designing mathematical learning to ensure that the goals of developing children’s positive social, cultural, and mathematics identities are achieved
5. Taking action that has an impact on a social issue

As social justice mathematics educators, we must be intentional in our work so that children can

1. use their mathematics knowledge and skills for the betterment of their communities and society, and
2. work collaboratively—with persons of all racial or ethnic backgrounds, socioeconomic statuses, and social identities—to conscientiously address the social justice issues that impact themselves and others.

Let’s look at where TMSJ comes from.

TEACHING MATHEMATICS FOR SOCIAL JUSTICE IS EQUITY FOCUSED

Berry et al. (2020) further define TMSJ as “much more than the lessons teachers might implement in their classrooms. It is about the relationships they build with and among students; the teaching practices that help them do that; and the goals to develop positive social, cultural, and mathematics identities—as authors, actors, and doers” (p. 23).

Eric Gutstein (2003), professor of mathematics education and curriculum and instruction at the University of Illinois Chicago, for example, identifies the three components of social justice-oriented instruction as

1. helping children develop sociopolitical consciousness,
2. providing children with strengthened senses of agency, and
3. positively highlighting children’s diverse social and cultural identities.

Tonya Gau Bartell (2012), associate professor of mathematics education at Michigan State University, posits that mathematics instruction should target three additional goals:

1. teaching children how to apply mathematics to issues of social injustice,
2. helping children develop critical consciousnesses that deepen their knowledge of sociopolitical contexts, and
3. supporting children’s involvement in social action.

In Bartell’s (2012) view, social justice-oriented mathematics instruction can help children not only understand the world in which they live but also change it. TMSJ also presents a process by which teachers use mathematics to help

By extending application of mathematics knowledge and skills to real-life matters, children can see mathematics not as something separate from their lives but as an essential aspect of their lives.

children understand their roles and places in society and change those roles when social injustice and inequity reign. Bartell argues that by extending the application of mathematics knowledge and skills to real-life matters, children can see mathematics not as something separate from their lives but as an essential aspect of their lives; for example, they may need to determine how much money they could save if they banded together with their neighbors to purchase goods or services in bulk, how many square feet of solar panels they will need to cover the roofs of community-renovated housing and lower the carbon footprint of their homes, or how to assess data from corporate earnings reports or balance a nonprofit organization’s budget.

Take a moment to complete Try This: Connections to Mathematics.



TRY THIS: CONNECTIONS TO MATHEMATICS

Have children identify one personal thing they like to do and one socially impactful thing they are doing or would like to do. For the younger grades, you will possibly need to help them make sense of a socially impactful thing they are doing or would like to do. For example, you may ask them, “What community problem would you like to solve?”

After gathering these two pieces of information, work collaboratively with the children to determine the mathematical connection. This connection should be broad and showcase mathematics beyond just calculations.

Personal	Mathematics Connection (Personal)	Socially Impactful	Mathematics Connection (Socially Impactful)

For example, if a child states they want to reduce violence in their community, this can be quantified through publicly available data. Another example, if a child states they like to sleep as their personal thing (we all know children who will be thinking outside the box), the mathematical connection can simply be the amount of time they like to sleep. Ultimately, the goal of this activity is to show children that mathematics is all around us. The key is to keep the connections simple and use them to launch a discussion.

More recently, the NCSM: Leadership in Mathematics Education and TODOS: Mathematics for All position paper (2016) stresses the importance of mathematics instruction focused on issues of social justice as a way of eliminating

the tendency toward deficit views of mathematics learning, reducing the role of mathematics as a “gatekeeper” subject, engaging the sociopolitical turn of mathematics education, and elevating the professional learning of mathematics teachers and leaders. This was followed by the Benjamin Banneker Association (2017) position that mathematics instruction can apply the concept of social justice through three lenses: “about” social justice, “with” social-justice, and “for” social justice. Last, Berry et al. (2020) maintain that social justice-focused mathematics instruction is about teachers emphasizing equitable opportunities for every child and using mathematics to increase children’s decision-making power.

The common thread these scholars express is a keen focus on harnessing the power of mathematics as a catalyst for social change. The TMSJ approach shows mathematics educators how to become effective, social justice-oriented teachers who use new ways of thinking about and using mathematics to illustrate and expand children’s knowledge about societal challenges. It can guide you to provide your children with mathematics-based skills to help them solve real-life problems resulting from social injustice in their school, communities, society, and the world. Table 1.2 shows the connections among three of the elements by describing each approach’s views on academics, learning about

Table 1.2. *Connections Among Culturally Based Pedagogies*

	Culturally Relevant Pedagogy (Ladson-Billings, 1995)	Culturally Responsive Teaching (Gay, 2002)	Teaching Mathematics for Social Justice (Wager & Stinson, 2012)
Definition	Based on three tenets: <ol style="list-style-type: none"> 1. Children must experience academic success. 2. Children must develop and maintain cultural competence. 3. Children must develop a critical consciousness through which they challenge the status quo of the current social order. 	Using the cultural characteristics, experiences, and perspectives of ethnically diverse children as conduits for teaching them more effectively.	Teaching mathematics for social justice is engaging children in mathematics learning experiences rooted in social issues, with a focus on transforming children’s communities.
Views on academics	Children must experience academic success	Standards based	Rooted in rich problem solving
Learning about other cultures	Requires children to become at least biculturally competent	Rooted in educational experiences that integrate various cultures into the classroom	There is a possibility children will learn about other cultures through the social issue, but it is not a requirement
Beyond the classroom	Children learn in a manner to challenge the status quo. Cognitively children will be charged to act; however, it is not a requirement.	Lessons focus on the incorporation of culture into the classroom setting. Learning can extend beyond the classroom but is not a requirement.	Lessons extend beyond the classroom and into children’s communities.

Sources: Ladson-Billings (1995), Gay (2002), Wager & Stinson (2012).

other cultures, and its impact beyond the classroom. Note that we did not include standards-based mathematics instruction because we see that as a foundational element of the mathematics classroom, a necessary and foundation for learning.

TEACHING MATHEMATICS FOR SOCIAL JUSTICE IS CHILD-CENTERED

Another aspect of TMSJ is that, beyond being culturally responsive and relevant, the mathematical learning itself must be child-centered. In a child-centered mathematics classroom, children see themselves in the mathematical topic or concept, and the teacher uses cognitively rich thinking tasks. These tasks have multiple entry points and multiple problem-solving pathways that engage all children and guide the children through their own problem-solving process in collaboration with peers to make sense of the mathematics at hand. The teacher is a facilitator who asks questions, provides scaffolding to help children clarify and advance their thinking, and helps them generalize about the mathematics they are coming to understand. This method provides all children in the teacher's classroom with opportunities to engage in the topic by accessing their knowledge base *through their unique identities*. In this way, every child can contribute to the mathematics classroom. Every child is encouraged to bring what they know mathematically—based on their unique cultural understandings—into what you, as a future social justice mathematics educator, will come to see and convey as the “whole universe of learning.” TMSJ recognizes that every civilization and people of diverse cultures and worldviews have contributed to the development of mathematics and that children bring their own wealth of knowledge and interesting ways of thinking and sensemaking to the classroom. Thus, the wealth of mathematics knowledge, skills, and practices that diverse groups of children embody should be actively celebrated and shared, respectfully and constructively, to enhance all children's mathematics learning and understanding.

All children, not just melanated children, need to understand the history of mathematics and how it arose from many cultures. They should understand that although mathematics initially arose from a need to count and record numbers, people engaged in mathematics while going about their practical lives beyond just the modern-day focus on algorithms and solution-getting (Joseph, 2011). Mathematics was used to make sense of the world, from understanding time to travel guidance to spiritual understandings and connections. This understanding is important for children because as naturally inquisitive people, they can see how others used math to make sense of their lives. Joseph (2011) provides countless examples of the multicultural roots of non-European mathematics, which will help today's racially and ethnically diverse children better understand their place in history and how their ancestors contributed to mathematics.

For example, in Africa, the Ishango bone, an engraved bone more than 10,000 years old, is believed to have been used to count, play games, and engage in lunar observations, among other uses. The ancient Chinese used mathematics for fraction operations, quadratics, trigonometry, and other uses. Ancient Indian civilizations discovered the sine functions and used mathematics for astronomy and navigation, among other uses. Islamic contributions to mathematics included geographic uses, analysis of property relations, and distribution of inheritances. These are just a few instances of ancient civilizations' uses of and contributions to mathematics. The more we, as educators, can de-center the "Greek" lens when exploring the history of mathematics, the more children can have an opportunity to see themselves in mathematics and the better white-identifying children will understand the essential and rich contributions of others.

TMSJ also supports the development of the whole child by preparing them with the knowledge, skills, attitudes, and values to thrive in their classroom, school, community, and beyond. Table 1.3 lists the competencies and skills from three resources that inform this work: the social-emotional well-being competencies outlined by CASEL (n.d.), the P21 (2019) *Framework for 21st Century Learning*, and the OECD (2019) *Learning Compass 2030* (see Chapter 6 for additional connections).

The more we as educators can de-center the "Greek" lens when exploring the history of mathematics, the more children can have an opportunity to see themselves in mathematics and the better white-identifying children will understand the essential and rich contributions of others.

Table 1.3. TMSJ Supports Whole Child

Social & Emotional Learning	21st Century Learning	Learning Compass 2030
<ul style="list-style-type: none"> • self-awareness • self-management • responsible decision making • relationship skills • social awareness 	<p><i>Learning and Innovation Skills</i></p> <ul style="list-style-type: none"> • creativity and innovation • critical thinking and problem solving • communication and collaboration <p><i>Life and Career Skills</i></p> <ul style="list-style-type: none"> • flexibility and adaptability • initiative and self-direction • social and cross-cultural skills • productivity and accountability 	<p><i>Core Foundations</i></p> <ul style="list-style-type: none"> • cognitive foundations (literacy and numeracy, upon which digital literacy and data literacy can be built) • health foundations (including physical and mental health and well-being) • social and emotional foundations (moral and ethics) <p><i>Transformative Competencies</i></p> <ul style="list-style-type: none"> • creating new value • reconciling tensions and dilemmas • taking responsibility

Sources: CASEL (n.d.), P21 (2019), OECD (2019).

TEACHING MATHEMATICS FOR SOCIAL JUSTICE IS ACTION-ORIENTED

TMSJ aims for action as its ultimate goal. It commences well before planning to involve children in a social justice mathematics lesson. The classroom setting holds significant importance because children are expected to

learn alongside classmates from various backgrounds, races, ethnicities, and cultures, thereby gaining exposure to diverse perspectives. The initial steps involve learning about oneself, exploring identities, biases, and beliefs (refer to Chapter 2) and understanding the children, their identities, strengths, and interests (refer to Chapter 3). These actions are pivotal in establishing a mathematical learning environment (see Chapter 4) that engages all children in the mathematics classroom (see Chapter 5) and fosters a sense of belonging and of being valued. This process demands your commitment to learning, potentially prompting adjustments to instructional practices and the acquisition of new practices.

As you implement social justice mathematics lessons, you'll have the chance to gather input from your children and families regarding current community issues (see Chapter 6). Collaboration with families, community members, and colleagues in the planning process might result in their involvement in the actual lesson (see Chapter 9). Following or even during the lesson, children should be provided with opportunities to explore ways to expand and apply their classroom learning to actions they can take within their school, community, and beyond (see Chapter 8). Consequently, every facet of TMSJ entails some form of action.



To hear more from the authors about the social justice mathematics teaching framework, listen to this conversation with Dr. Childs and Dr. Staley.

qrs.ly/xmfful9

To read a QR code, you must have a smartphone or tablet with a camera. We recommend that you download a QR code reader app that is made specifically for your phone or tablet brand.

Summary

In this chapter, we introduced a social justice mathematics teaching framework that consists of five elements: equity, standards-based mathematics instruction, culturally relevant pedagogy, culturally responsive teaching, and teaching math for social justice (TMSJ). After examining each of the elements, we concluded the chapter with a discussion of the child-centered nature of TMSJ and also discussed how the various aspects of TMSJ are action oriented.

As you set off and work your way through this journey to becoming a social justice mathematics educator, we want to provide you with the right tools. One of those is the TMSJ Action Plan (Appendix A). You can access this on the book's companion website and use it with each chapter of the book. We have provided space for you to record your key takeaways from each of the chapters and encourage you to identify possible next steps to support you as you continue through each stage of your social justice mathematics teaching journey.



The TMSJ Self-Assessment is available for download at <https://qrs.ly/wbfixtr>

MIRRORS: UNDERSTANDING YOURSELF

2

Now that we have gained a foundational understanding of what teaching mathematics for social justice (TMSJ) means, it is time to set you off on what we hope is a transformational journey. We recognize that every educator will enter into this work at a different place, so the key is for you to focus on you and where you are today. This chapter is meant to help you do that. In this chapter you will

- ▶ engage in a personal reflection about your various identities as a human, an educator, and a teacher of mathematics;
- ▶ explore the connections between your identities, beliefs, and biases; and
- ▶ gain an understanding of how decentering your own identity and whiteness in the classroom will make room for the identities of the children under your purview.

My Identities Matter

People have all kinds of identities—some outward-facing and some inward-facing. Your identity markers include your race and ethnicity; gender; sexual identity; age; religion or nonreligion; native language; socioeconomic status; education; profession; relationships and positions with other people; and physical, mental, and emotional abilities. Some identity markers are given to us and are fixed, while others are changeable and have varying impacts on our lives. Take a moment and consider, “What identities describe you when you are at work?” In every space you enter, you bring a lived experience that may be similar to or different from the experiences of the children in your classroom. Understand that the value you place on specific identities can change over time. In addition, you may have some identities that you do not consciously consider because they may not have a regular impact on your daily life. Take some time to complete the Try This: Reflecting on My Identity Markers as you unpack your identity markers, how they impact your life, and how they impact you as an educator. This can be completed individually or as a part of a group activity. Allow yourself ample time to complete the activity and reflection

questions. If you are working alone, fully explain your thoughts and deeply reflect upon your responses. If you are working with a group, carefully respond to the reflection questions according to your personal comfort level. You are not under any obligation to share pieces of your identity that you are not comfortable with.



TRY THIS: REFLECTING ON MY IDENTITY MARKERS

Mark the top five identity markers that impact your role as an educator, then complete the reflection questions.

Age	Religion
Gender	Immigrant Status
Race	Physical Appearance
Ethnicity	Sexual Orientation
Education	Family Status
Geographical Location	Language
Nationality	Physical Ability (able-bodiedness)
Marital Status	Socioeconomic Status

Reflection Questions

1. Which three of the five identity markers are your most important identities? Why?
2. Which ones do you think others typically notice about you? Why?
3. Which three impact your role as an educator the most? Why?
4. When in your educational environment are there identities you prefer to minimize? Why?
5. What feelings arose as you completed this reflection? As you shared your reflection?

Source: Adapted from Aguilar (2021).

Now that you have reflected upon your identity markers, you are probably still asking yourself, “Why is it important to critically reflect on one’s identities? How does this impact my role as an educator?” To be a good educator, this activity does not necessarily matter; an educator’s job is to teach children specific content and then go home. However, as an educator committed to TMSJ, your work goes beyond just teaching children content. It expands to teaching children about life and how mathematics can be used to improve their lives and communities.

Since the beginning of time, mathematics has played a role in every civilization (Joseph, 2011), and TMSJ provides the space to continue this legacy. This starts with each of us truly understanding who we are and how we enter this work. Understanding who you are through your identity markers helps you better understand how you show up in different spaces, including in the educational setting, and more importantly, how your instructional practices are formed. Let’s explore the intrinsic values of one’s identities as we look back at Try This: Reflecting on My Identity Markers. Think about how much these identities mean to you and how they shape your life. Reflect on how often you consciously consider these identities and the role they may or may not play when you are in your educational environment.

As an educator committed to TMSJ, your work goes beyond just teaching children content. It expands to teaching children about life and how mathematics can be used to improve their lives and communities.



Check In

Now, imagine that tomorrow, when you enter your educational setting, you have to leave the three identities you care about the most at the entrance.

What feelings are arising? Do you believe you will now be successful in the educational setting? Would you still want to enter?

Picture yourself as a child entering the classroom or school. Before crossing the threshold, what identities must the child leave at the door to assimilate into the setting and survive? Every day there are children who enter our schools and classrooms and they know some of their identities are not valued in the space. For example, there may be a child who identifies as LGBTQIA+, and by not using the child’s preferred pronouns, the school has shown the child they are not valued and won’t be seen. The child is dehumanized, not because of anything they have done, but for simply existing. Now consider the child whose identities do not match many of the identities within the school or classroom. It is one thing when identities do not match; it is another when, throughout the day, adults organizing activities such as musical events, curriculum projects, and other extracurricular activities never align with the child’s identities while, in contrast, other children’s identities are repeatedly validated.

We must remember how we felt imagining that, as adults, we would have to leave our identities at the door and consider how our children are—intentionally and unintentionally—subjected to educational settings where they are forced to do the same and must adapt to the setting. We challenge you as a reader to consider your setting and ask,

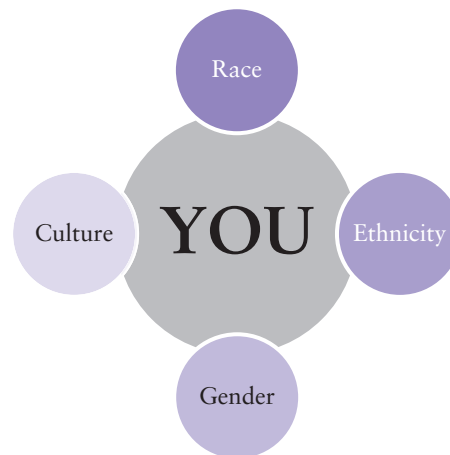
- ▶ What is being done to ensure every child can authentically be themselves?
- ▶ What is being done to eradicate any barriers to a child being their full self?
- ▶ What am I doing to ensure the educational setting is inclusive?

THE VISUAL IDENTITY MARKERS

Let's further explore your identity markers and how they have impacted your career and your role as a mathematics educator. Do you feel your identities have enhanced or hindered your career opportunities? Why? Now consider your race, ethnicity, culture, and gender identities (see Figure 2.1). How have these identity markers impacted your career? How do they show up in your mathematics classroom setting?

We focus on these four identity markers because they play a keen conscious and unconscious role in the mathematics classroom. They are the identity markers that are observed when someone enters a room, and assumptions are naturally made based on what people see. We say “assumptions” because one does not truly know a person's identities unless they tell you. However, these four identities by which folx are generally viewed and categorized shape society. Race and ethnicity are deeply rooted identity constructs that have been consistently used as a measuring stick in society and have become part of everyone's social conditioning. Together with culture and gender, these identity constructs are

Figure 2.1 Your Visual Identity Markers



deeply embedded in the fabric of our culture, and they play a major role in the beliefs and biases that are formed about you and your children.

We have to be honest with ourselves and acknowledge that we live in a gender-oriented, racialized, and ethnically based society. Nearly every form we fill out asks us about our gender, race, or ethnicity. Personal data is tied to our race and ethnicity. Where we live, what schools we attend, where we grocery shop, how we interact with people, what languages we speak, what food we eat, and what customs we cherish are all often tied to race and ethnicity. We live with the legacy of policies and laws based on people's race and ethnicity. Student achievement data, course placement and acceptance, and graduation rates are all bound together with data about race and ethnicity. Our diversity is beautiful and is a strength, and yet for many, it can present many barriers. Many of us, regardless of race or ethnicity, have never deeply investigated what this means at the individual level and how these two specific identity markers play a major role not only in our personal lives but also our professional lives and in relation to the children in our classrooms.



Check In

During the school day, how often do you think about the race, ethnicity, gender, or culture of

- yourself?
- your colleagues?
- children you teach?
- contextual settings for lesson tasks and experiences?

MY IDENTITIES SHAPE MY BELIEFS

Your personal identity markers are vital to reflect on as you start to think about your practices because they have been at the core of shaping who you are as a person and educator through your background and lived experiences, inside and outside of educational settings. It is important to ask yourself, “How do my identities impact my teaching and the children in my care?” To understand how your identities shape your teaching practices, we start by considering the beliefs we hold about your children as people; thinkers, doers, and creators of mathematics; and ultimately learners worthy of engaging mathematical experiences. Take some time to complete



TRY THIS: IDENTITIES AND BELIEFS

1. List the top five identity markers you identified in Try This: Reflecting on My Identity Markers.
2. For each identity marker, consider how it shapes your belief about your children as doers and learners of mathematics. Record your reflections in the chart below.

My Identity Markers	Beliefs About My Children



Available for download at <https://qrs.ly/wbfixtr>

Try This: Identities and Beliefs as you reflect on how your identities shape your beliefs.

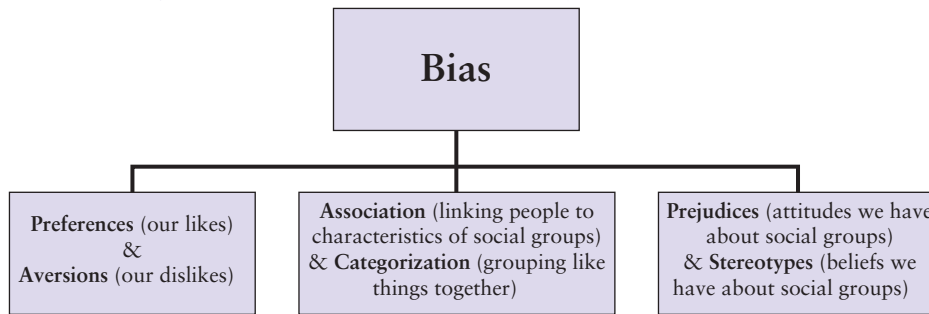
As you reflect on your identities and how they shape your beliefs about your children, we invite you to begin to think about how this shows up in your practices: mindset, attitudes, and behaviors. You might notice that your beliefs lead to practices that are driven by your “likes” and “dislikes.” In other words, you are beginning to identify your biases about your children as learners and doers of mathematics.

Identifying My Biases and Beginning the Work to Address Them

The Plague and power of bias are too consequential to let them go unacknowledged and unchecked. They can affect us in surprising ways. (Eberhardt, 2019, p. 30)

We now turn your attention to unpacking your biases—those you are aware of and those that you are not. “We have a bias when, rather than being neutral, we have a preference for (or aversion to) a person or group of people” (Colorado Department of Education, n.d.). Figure 2.2 provides a visual of the underlying concepts of bias.

Figure 2.2 Underlying Concepts of Bias



Source: Adapted from Eberhardt (2019).

Because your biases condition how you look at and relate to your children, it is vital that you understand them, acknowledge the consequences of your checked and unchecked biases, and mitigate those biases that need to be addressed. The biases you carry can affect

- ▶ *what you perceive about your children*—the way you view them and their families,
- ▶ *how you think about them*—beliefs about their abilities to learn and do math, and
- ▶ *the actions you take*—the mathematics environment you create, the learning experiences you design, and the relationships you develop with your children.

We also have unconscious biases (or implicit biases) that associate stereotypes or attitudes toward categories of people without conscious awareness, which can result in actions and decisions that are at odds with one’s conscious beliefs about fairness and equality (Osta & Vasquez, n.d.).

There are two questions that you may be asking yourself: “How can I uncover my own biases?” and “What implicit biases do I have that must be addressed?” Answering these questions requires you to take a critical look at yourself and through the “windows” (see Chapter 3) at your children to identify

1. your likes and dislikes about who you teach, where you teach, and what you teach;
2. the ways children are grouped or labeled in your school and school community;
3. your beliefs and attitudes about your children, school, school community, and teaching and learning of mathematics.

Take a moment to complete the Try This: My Biases as you start to identify your biases.



TRY THIS: MY BIASES

- Review your responses to Try This: Identities and Beliefs and select one identity marker and its belief statements to record in the chart below. (Note: In the Reflection and Action at the end of this chapter, we invite you to complete this exercise for the other four identity markers and beliefs.)
- Capture your thoughts for each prompt as you consider the impact of your biases on who you teach, where you teach, and what you teach.
- Review your responses and identify (underline, circle, or highlight) where you are not able to be “neutral” because you have a strong preference or aversion. These are your biases!

My Identity Marker	Beliefs About My Children
<i>What are your preferences (likes) and aversions (dislikes) about ...</i>	
Who you teach (children & families)	
Where you teach (school and school community)	
What you teach (grade levels, mathematics courses/content)	
<i>In what ways do you associate (group) or categorize (label) ...</i>	
Who you teach (children & families)	
Where you teach (school and school community)	
What you teach (grade levels, mathematics courses/content)	
<i>What are your stereotypes (beliefs) and prejudices (attitudes) ...</i>	
Who you teach (children & families)	
Where you teach (school and school community)	
What you teach (grade levels, mathematics courses/content)	



Available for download at <https://qrs.ly/wbfixtr>

Now that you have identified your biases, seek out a critical friend to discuss your responses with and ask them to provide you with additional feedback on things you might have missed—your “blind spots”—when you looked in the mirror. (Chapter 9 goes into further detail about the importance of relationships with colleagues as you continue your TMSJ journey.) It is often difficult to identify your “blind spots,” also known as implicit biases, as these are the areas that don’t show up in our conscious knowledge. A critical friend can provide insights about how you talk about your children, classroom, school, or school community; your interactions with children in the classroom and school; your daily preparation and planning for mathematics class; and the instructional approaches and tools used in your mathematics classroom, just to name a few areas.

Hopefully you now have identified a few biases and are ready to begin the work of checking those that show up in your mathematics classroom and especially in your interactions and relationships with your children. Table 2.1 provides four areas for self-reflection with prompts around identity, language, relationships, and behavior. We also include Actions to Consider and What It Looks Like to assist you in identifying any biases that need to be checked.

Table 2.1 “Checking” My Biases

Notice & Wonderings	Actions to Consider	What It Looks Like in the Mathematics Classroom
<p>My Identity What connections can you make between your identity and your biases?</p>	<ul style="list-style-type: none"> Acknowledge the biases that are connected to your identity and consider how they might show up in the mathematics classroom. Select one to address/be more conscious of and check as needed. 	<p>Monitor use of a preferred instructional approach (i.e., avoid using procedural approach if not aligned to the intention of the standards for a lesson).</p>
<p>My Language How do your biases show up in the words you use when speaking about your children, families, classes, school, or school community?</p>	<ul style="list-style-type: none"> Identify your use of deficit language—words, terms, labels that focus on lack, loss, or a negative perspective—when describing your children’s mathematics ability, effort, or performance, and commit to shifting your speech to an assets- or strengths-based approach. Commit to eliminating deficit language. Become a strength finder by seeking out at least one asset in each of your children. 	<p>Reframe language and labels about children, i.e. shift from “struggling children” to “children needing additional support to access grade-level mathematics.”</p>

(Continued)

Table 2.1 "Checking" My Biases (Continued)

Notice & Wonderings	Actions to Consider	What It Looks Like in the Mathematics Classroom
<p>My Relationships Who do you invite into your space?</p>	<ul style="list-style-type: none"> • Learn about your children’s backgrounds, interests, funds of knowledge, and strengths. • Read Chapter 3, Windows: Understanding Your Children 	<p>Have your children complete a “Math Autobiography” or survey where you gather information about their interests, strengths, and needs inside and outside the mathematics class.</p> <p>Review children’s responses and be intentional about using the information to build connections to mathematics.</p>
<p>My Responses How do your biases manifest in your interactions with the children you teach?</p>	<ul style="list-style-type: none"> • Monitor your classroom interactions (i.e., responding to questions, providing feedback, redirection statements). 	<p>Respond/provide feedback to all children that shows that they are valued as thinkers, doers, and learners of mathematics.</p>

As you look in the mirror and reflect on your identities and do the work of identifying your biases and implicit biases, we now turn your attention to whiteness—how it might show up, the role you and other educators might play (often unconsciously) in centering it, and the importance of decentering whiteness to establish a TMSJ environment.

How Does Whiteness Show Up in the Mathematics Classroom?

In an effort to be relatively generic, mathematics problems often center on an “average” middle-class context, describe students who likely identify as white and have European-derived names, and describe generic activities many children may not be exposed to or interested in. This generalizing and whitewashing results in many students never seeing their culture, their race, or their community represented in the mathematics they are learning. It doesn’t help them see how math is for them. It also does a disservice to white children who never have a chance to learn the deep, rich, and complex history and origins of mathematics, and it reinforces whiteness as the norm. Some curriculum publishers try to shift this by changing the names of characters in story problems to sound more “ethnic” or changing the object of a problem, such as changing from dividing up sandwiches or pizza to dividing up burritos to investigate fractions (which is a problem because no one can eat the middle third of a burrito). Though well-intentioned, this, in many

ways, actually does *more* of a disservice because it often reinforces stereotypes and lacks any depth, authenticity, or meaning to the children in *your* classroom. Similarly, many of the generic posters or other images teachers put on walls depict math as the domain of old, white, men. Many teachers are engaging in a more active effort to disrupt these norms by changing the contexts in their textbook problems to be more representative of their students; some teachers will put posters on their walls of mathematicians who are Black, Latin@, women, or queer to help broaden the ideas around what math is and who it is for. Take a moment to complete the Check In as you reflect on your school and classroom settings.



Check In

What do the artifacts in your classroom look like? If you walk down the hallways or passages of a school in your area, what do you see? Where might your own biases affect how mathematics gets represented in your classroom?

DO I CONSCIOUSLY OR UNCONSCIOUSLY CENTER WHITENESS IN MY MATHEMATICS CLASSROOM?

When teaching mathematics for social justice, educators must ask themselves, “Do I consciously or unconsciously center whiteness in my mathematics classroom?” Before answering this question, we offer a definition of whiteness. DiAngelo (2011) defines whiteness not as just the identity components of race and ethnicity but as a multitude of processes and practices that include basic rights, values, beliefs, perspectives, and experiences and that center and consistently benefit those who identify as white. Now let’s look critically at our own mathematics classroom to determine whether and how we are consciously or unconsciously centering whiteness. There are many ways in which multiple identities are often elevated or stifled in our classrooms, but one of the most critical ones we must first address is the dominance of whiteness.

Addressing whiteness is an ongoing journey, and success doesn’t mean tackling all aspects perpetuating whiteness in your classroom at once. Instead, it’s about starting urgently and persistently addressing each indicator of whiteness one step at a time, in an ongoing process. This leads us to the question, “What happens if one *does* or *does not* address whiteness in their mathematics classroom?”

- ▶ **If one does not address** whiteness in the mathematics classroom, inequities in education and in society will remain a perpetual cycle. Historically excluded children will continue to experience subpar mathematics learning experiences.

When teaching mathematics for social justice, educators must ask themselves, “Do I consciously or unconsciously center whiteness in my mathematics classroom?”

- ▶ **If one addresses** whiteness in the mathematics classroom, then the environment begins to become more inclusive, and children see themselves within the experience. This leads to an increase in children’s engagement in mathematics, which in return will improve their academic achievement.

WHY IS IT IMPORTANT TO DECENTER WHITENESS?

Traditional U.S. mathematics education has long reflected the dominant culture of white, European backgrounds, consciously or unconsciously shaping educators’ approaches (Cintron et al., 2001). TMSJ aims to foster equity in math classrooms and inspire children to pursue social justice in their schools and communities. The approach doesn’t solely focus on race or ethnicity but addresses and rebalances power dynamics related to race. It strives for inclusive learning experiences that embrace diverse identities (Ladson-Billings, 2021), crucially decentering whiteness. TMSJ aligns with culturally relevant and responsive teaching, aiming to create equitable math classrooms that catalyze positive change.

Peggy McIntosh (1998), a feminist and anti-racism activist, defines whiteness as beyond racial identity, emphasizing its historical elevation of white people and their societal advantages over nonwhite individuals globally. Over centuries, racism and white supremacist ideologies have served to elevate white people—socially, economically, politically, culturally, and in other ways—over nonwhite people around the globe. In the United States and elsewhere, whiteness allows white children and adults to have their lives shaped, consciously or unconsciously, via unearned privilege or protections solely because of their skin color. TMSJ deliberately displaces whiteness from its customary role in math education, exposing the unjust advantage of skin color in the classroom while offering fair opportunities for learners from various cultures and identities to engage with mathematics in their daily lives and communities.

In the U.S., whiteness historically dominates, akin to baseball and apple pie, but decentering it allows educators to understand nonwhite children’s identities better and create more inclusive classroom experiences. TMSJ integrates culturally informed math principles and practices from nonwhite cultures into everyday lessons, laying the groundwork for teaching math through a lens of social justice.

HOW CAN I DECENTER WHITENESS IN MY CLASSROOM AND MAKE ROOM FOR OTHER IDENTITIES?

The process of decentering whiteness starts by examining how much your school and classroom focus on white perspectives. Table 2.2 offers a set of questions and indicators to guide this evaluation. The downloadable tool helps assess the degree of white-centric content in images, math tasks, and behaviors, providing a way to capture this information.

TMSJ aims to foster equity in math classrooms and inspire children to pursue social justice in their schools and communities.

TMSJ integrates culturally informed math principles and practices from nonwhite cultures into everyday lessons, laying the groundwork for teaching math through a lens of social justice.

Table 2.2 *Creating and Cultivating Inclusive Classrooms*

Decentering Questions	Indicators or “Look-Fors” That Decenter Dominant Culture in Your Mathematics Classroom
<p><i>Does your curriculum focus on a singular problem-solving approach to a mathematics task?</i></p>	<p>Multiple Solution Methods: Emphasis on more than one specific problem-solving method or strategy across various mathematical tasks and topics.</p> <p>Flexibility in Instruction: Teacher provides more than one method or approach of problem-solving and provides opportunities for children to experiment with different approaches.</p> <p>Divergent Thinking Encouraged: Emphasis on divergent thinking or creativity in problem-solving, encourages children to explore multiple pathways to solutions.</p> <p>Varying Range of Examples: Examples provided in lessons show varying methods or approaches, offering exposure to diverse problem-solving techniques.</p>
<p><i>Are children primarily provided problems or tasks to solve individually rather than collectively? Do your instructional practices and grading policies encourage competition or cooperation?</i></p>	<p>Independent and Group Task Distribution: Individual and group tasks or problems are incorporated into the lesson plan.</p> <p>Group Discussions and Problem-Solving: Children are encouraged to discuss mathematical problems collaboratively with peers during class time.</p> <p>Cooperative Learning Structures: Activities or structures specifically designed to encourage teamwork, problem-solving discussions, or collaborative problem-solving.</p> <p>Values Collectivism: Classroom norms encourage collaborative or cooperative learning, fostering teamwork, collective thinking, and collective problem-solving.</p> <p>Peer Interaction: Structured time dedicated to peer-to-peer interaction or sharing of strategies when solving math problems. Children are encouraged to critique the reasoning of others.</p> <p>Group Accountability: Assessments evaluate group performance to foster collaborative problem-solving skills.</p>
<p><i>Do the images (people, places, things) represent various cultures?</i></p>	<p>Diversity in Representation: Visuals authentically showcase people, places, or things from a variety of cultures or identities.</p> <p>Historical or Global Perspectives: Images focus on historical events, mathematical contributions, or settings from a diverse cultural lens, highlighting broader global or historical contexts.</p> <p>Cultural Context: Images exhibit context or explanations about different cultural practices, traditions, or contributions, exposing children to diverse cultural perspectives.</p> <p>Multicultural Context: Images display cultural diversity, with a portrayal of cultural groups reflecting the multicultural reality of the classroom, school, or community.</p> <p>Void of Stereotypical Depictions: Images do not perpetuate stereotypes or clichés about specific cultural groups, presenting them in a narrow or limiting manner.</p>
<p><i>Are students expected to speak in English a majority of class instead of their native language?</i></p>	<p>Multilingual Learning Materials: Math-related materials, including textbooks, worksheets, support materials, or instructional resources, are available in children’s native language to aid comprehension or reinforce mathematical concepts.</p> <p>Language Flexibility: Children are encouraged to use their native language to discuss mathematical concepts or problem-solving strategies when grouped with peers who speak the same language.</p> <p>Children Self-Choice: Children express mathematical ideas or ask questions in their native language.</p> <p>Multilingual Collaboration and Group Discussions: Collaborative problem-solving activities or peer interactions related to math problems incorporate the use of multiple languages, allowing children to leverage their linguistic strengths.</p>

(Continued)

Table 2.2 *Creating and Cultivating Inclusive Classrooms (Continued)*

Decentering Questions	Indicators or “Look-Fors” That Decenter Dominant Culture in Your Mathematics Classroom
<p><i>Do classroom norms and rules focus on behavior compliance?</i></p>	<p>Behavior Expectations: Classroom norms and expectations consider diverse cultural practices or expressions, prioritizing children’s active engagement and collaborative discussions.</p> <p>Culturally Responsive Practices: Classrooms include practices or norms that honor and incorporate diverse cultural values, traditions, or ways of knowing into the learning environment.</p> <p>“Check” Cultural Bias in Discipline: Disciplinary actions or consequences that disproportionately affect children from cultural backgrounds different from the dominant culture are monitored and minimized.</p> <p>Flexibility in Expression: Classroom norms are created that encourage the expression of diverse cultural identities, language, or customs.</p>

 Available for download at <https://qrs.ly/wbfixtr>

A culture in which whiteness is seen as the default fails the majority of children in our schools and robs all of them of potentially having richer and fuller educational experiences. This is why we must individually and collectively work to decenter whiteness. Note the keyword is *decenter*, not *eliminate*. To do this, use the questions in the Check In below to self-reflect.

Check In

- Do the values, beliefs, perspectives, and experiences I elevate in the mathematics classroom tend to reflect and benefit those children who identify as white?
- Do I consciously or unconsciously establish norms or rules that disproportionately penalize nonwhite children?

If you answered yes to either of the questions, you have consciously and/or unconsciously centered whiteness in your mathematics environment. Each question signifies an issue within mathematics education that needs to be critically evaluated to begin the process of creating an equitable mathematics classroom that serves as the foundation for TMSJ.

In Chapter 3 we will take a closer look at the identities of the children in the classroom, whose identities are already centered, and what it will take to decenter identities—especially ones centered in whiteness—so that every child can be seen, valued, and heard in the classroom.



ACT

1. Add your key takeaways and next steps to your TMSJ Action Plan.
2. Complete the Try This: My Biases for your remaining four identity markers and identify your biases that need to be monitored.

My Biases

- Review your responses to Try This: Identities and Beliefs and select one identity marker and its belief statements and record them in the chart below.
- Capture your thoughts for each prompt as you consider the impact of your biases on who you teach, where you teach, and what you teach.
- Review your responses and identify (underline, circle, or highlight) where you are not able to be “neutral” because you have a strong preference or aversion. These are your biases!

My Identity Marker	Beliefs About My Children
<i>What are your preferences (likes) and aversions (dislikes) about . . .</i>	
Who you teach (children & families)	
Where you teach (school and school community)	

My Identity Marker	Beliefs About My Children
What you teach (grade levels, mathematics courses/ content)	
<i>In what ways do you associate (group) or categorize (label) ...</i>	
Who you teach (children & families)	
Where you teach (school and school community)	
What you teach (grade levels, mathematics courses/ content)	
<i>What are your stereotypes (beliefs) and prejudices (attitudes) ...</i>	
Who you teach (children & families)	
Where you teach (school and school community)	
What you teach (grade levels, mathematics courses/ content)	



Available for download at <https://qrs.ly/wbfixtr>

Where to Next?

The question we are most often asked when presenting on TMSJ is “When can I start incorporating TMSJ into my children’s classroom experiences?” Our answer: You can start immediately! Incorporating TMSJ into your mathematics lesson plans is very much like learning to ride a bicycle. There is no perfect time to start, but the process can be very challenging at first. Finding your balance and learning to use the gears (if any) and brakes may be hard. You may encounter several bumps in the road, but with time and practice, you will see improvements and both you and your children will “get the hang of it.” Once you get started, you will continually progress and improve. You will probably find yourself trying new, previously unimaginable things in your mathematics classroom and realize success after success as your children react and respond to TMSJ instruction. The next step in your journey is found in Chapter 3, where you will look through some windows to consider the children in your own classrooms.