

Contents

| | |
|---|------------|
| Foreword | vii |
| Deborah Schifter | |
| Acknowledgments | ix |
| About the Author | xi |
| Introduction | 1 |
| 1. Observing, Studying, Analyzing, Planning: Preparing to Coach | 7 |
| Case: Moving Between Models | 8 |
| Math Activity: Models, Fractions, and Percents | 13 |
| Focus Questions Activity | 14 |
| 2. Discerning and Responding: Coaching in Real Time | 15 |
| Case: Analyzing Multiplication | 16 |
| Math Activity: How Do You Know? | 20 |
| Focus Questions Activity | 21 |
| 3. Strategic Coaching: Goal-Centered Modeling in the Classroom | 23 |
| Case: "It's 30 Less and 90 More": A Case About Listening to Children's Ideas | 24 |
| Math Activity: Angles and Angle Measurement | 32 |
| Focus Questions Activity | 34 |
| 4. Reaching a New Teacher: Math as the Conduit | 35 |
| Case: A Case of Coaching: Multiplication and Division Journal Entries | 36 |
| Math Activity: Looking Beneath the Surface | 43 |
| Focus Questions Activity | 44 |
| 5. Preparing for Thoughtful Dialogue | 45 |
| Transcript 1 | 46 |
| Transcript 2 | 49 |
| Transcript 3 | 52 |
| 6. Purposeful Planning and Facilitation | 57 |
| Case: Coaching in a Group: Moving From 1:1 to 1:? | 58 |
| Focus Questions Activity | 64 |
| Planning Activity: Facilitating Group Learning | 65 |

| | |
|---|------------|
| 7. Refining and Reimagining One’s Coaching Practice | 67 |
| Case: Learning About Counting, Learning About Coaching | 68 |
| Focus Questions Activity | 76 |
| Planning Activity: Cultivating Collaborative Study | 77 |
| 8. Cultivating Relationships With Administrators and Other Leadership Colleagues | 79 |
| Case: Crafting an Invitation: Shifting From Isolation to Inclusion | 80 |
| Focus Questions Activity | 85 |
| Planning Activity: Considering Collaboration and Communication | 86 |
| 9. Taking the Lead as a Teacher of Teachers | 87 |
| Case: Encountering Venus | 88 |
| Math Activity: Exploring Story Problems | 98 |
| Focus Questions Activity | 99 |
| 10. Maintaining a Focus on Mathematics | 101 |
| Case: Struggling to Keep Math at the Center | 102 |
| Focus Questions Activity | 108 |
| 11. Framing the Connection Between Coach and Teacher Goals | 109 |
| Case: Unsatisfied in the Seminar | 110 |
| Focus Questions Activity | 118 |
| Planning Activity: Meeting the Challenge | 119 |
| 12. Examining the Role of Authority in Coaching | 121 |
| Case: Claiming Authority | 122 |
| Focus Questions Activity | 129 |
| Planning Activity: Two Posters Activity | 130 |
| Facilitation Guide | 131 |
| Chapter 1 Facilitation Notes | 133 |
| Chapter 2 Facilitation Notes | 140 |
| Chapter 3 Facilitation Notes | 145 |
| Chapter 4 Facilitation Notes | 150 |
| Chapter 5 Facilitation Notes | 155 |
| Chapter 6 Facilitation Notes | 161 |
| Chapter 7 Facilitation Notes | 165 |
| Chapter 8 Facilitation Notes | 170 |
| Chapter 9 Facilitation Notes | 176 |
| Chapter 10 Facilitation Notes | 184 |
| Chapter 11 Facilitation Notes | 189 |
| Chapter 12 Facilitation Notes | 194 |

THEMES OF COACHING

The cases and related activities in this book relate to the big ideas of coaching and what is entailed in successfully developing and supporting a strong math program in schools. The job of coaching is multilayered, engaging an assortment of individuals in a variety of district positions, and it requires leadership that is firmly grounded in mathematics and in the fundamental belief that learners have mathematical ideas. As teachers become teacher leaders and take on responsibilities outside of their classrooms, they discover a new vantage point from which to understand what is learned in math class and the very way learning and teaching works. The cases in this book relate to the following themes:

Learning Mathematics

Coaches encounter new math ideas through their careful observation and analysis of student learning and through the same observation and analysis of teacher learning.

Authority

Authority in coaching is a powerful aspect of enacting the role. Negotiating issues of authority and leadership and building relationships for collaborative work requires skills that, for many, develop over time.

Focusing on Mathematics

It's about the mathematics—coaches facilitate complex discussions with adults that require skills in maintaining a focus on mathematics, math learning, students' and teachers' math ideas, and math teaching practice.

Strategically Aligning Coaching Goals With District Structures

Coaches are charged with identifying opportunities and structures for aligning their coaching moves with their goals for teacher and student learning.

DEVELOPING A REPERTOIRE OF COACHING MOVES

To meet the needs of the different constituents with whom coaches work—and the varied entry places of these people—coaches need to develop skills for considering a range of moves and models of coaching based on a growing understanding of the mathematics in the classroom and the ways teachers learn and teach it.

Analyzing School Contexts and Learning Goals

Coaches build understandings of what it means to analyze and articulate school contexts well enough to develop workable goals for schools—and of what is entailed in differentiating coaching based on the school particular and the teachers and administrators in it.

Building Collaborative Relationships in Support of Learning Goals

Learning how to bring others in, to be successful in creating opportunities and invitations that align both with school collaborators' skills and potential with astute coaching goals is a foundation of the leadership skills coaches cultivate.

Each of these themes is surfaced through the case scenarios in this book. As you delve into the particular issues in your coaching site, the discussions and insights that grow out of understanding more deeply the themes and principles of the role will help guide your work in thoughtful and meaningful ways.

HOW TO USE THIS BOOK

Cultivating a Math Coaching Practice provides resources for 12 to 14 sessions that vary in length from two to four hours. The book is separated into two sections; the first section includes 12 chapters for participants' reading, so each participant will need her own copy of the book. The second section is a facilitator guide that describes timed agendas and offers detailed support for facilitation of every session. Successful facilitation of the cases and related activities is predicated on the idea that facilitators carefully prepare for each session by reading the case, doing the math activity or planning activity, and writing out responses to each of the focus questions. Engaging with the materials this way is essential for anticipating participants' responses and taking ownership of the session agendas.

Materials

A set of materials for each session includes:

- **Case**—Authored by a math coach, the case provides an authentic account of coaching practice, dilemmas, and insights. A Case Description and a Notes to the Reader preface the case and orient the reader to the case themes.
- **Session Activity**—Each case is accompanied by a related Math Activity designed to strengthen coach math content knowledge or a Planning Activity designed to support thoughtful consideration of next steps in one's coaching practice.
- **Focus Questions Activity**—Small- and whole-group discussions focus inquiry on important elements of each case.
- **Facilitation Notes**—Written for the session leader, these chapter-by-chapter notes provide bulleted session goals, case descriptions, session overviews, detailed agendas, and practical facilitation support. In addition, Facilitation Notes include specific examples of participants' questions, responses to cases and activities, and anecdotes describing facilitator responses.

Organization

The material in this book is designed to complement a variety of professional development settings. Time allotted for district coach professional development varies in length and in intervals between meetings; the flexibility of these materials is meant to address this. Each chapter represents a stand-alone session; it is not essential to move through the book chapter by chapter. The order of chapters set forth in the Table of Contents, while representative of the trajectory of a developing coach practice, is not set in stone. A facilitator can choose the order of cases in response to a particularly relevant topic at play at his site. Reading the case descriptions (prefacing each chapter and repeated in the chapter Facilitator Notes) and related Facilitator Notes will provide useful information with which to make these types of decisions. For instance, Chapter 8, *Cultivating Relationships with Administrators and Other Leadership Colleagues*, focuses on inviting collaborators into the work, communicating with the principal, and articulating learning goals for the teachers in the school. This material is most appropriate to use after the school year has begun—perhaps midyear—when coaches have had time to determine schoolwide coaching goals, establish relationships with teachers and administration, and are sure-footed enough to determine an agenda for leadership and collaboration with others. And yet, you may be working in a context where these relationships and goals have been established in the first year or previous years of coaching; in that case, it may make sense to begin a new school year with this chapter. The first six chapters include Math Activities that support establishing a practice that includes engaging in mathematics with colleagues and other teachers, while chapters that include Planning Activities may be most effective after new or experienced coaches become familiar with new school sites and have begun to develop goals for their work.

Whether you choose to begin by examining the issues highlighted in Chapter 1 or with Chapter 6, the accompanying Facilitator Notes will provide a comprehensive guide for every part of each session. To provide structure for the participant, the case is placed at the front of each chapter followed by Focus Questions and a Planning or Math Activity. Some session agendas, however, have participants begin with the Activity as groundwork for reading the case that is the central focus of the session. The Facilitator Notes describe the order of the agendas, the logic of how each session unfolds, and guidance for leading discussions.

These materials represent central issues in coaching and are offered as rich territory for discussion, reflection, and planning. These materials are designed to be accessible and challenging for novice teacher leaders with little coaching experience and also for practicing coaches with skill and knowledge gained over many years. The authors of these cases offer stories of practice to be mined for new perspectives and ideas at many levels.

If you are a coach using this book without benefit of formal group and facilitated sessions, you will find it helpful to read the Case Description and the set of Focus Questions before you read each case. This pre-reading will draw your attention to the themes and issues highlighted in the chapter and provide a useful orientation to the material.