Contents

Introduction

Leslie Laud

This volume is an overview of the concept of differentiated instruction in literacy, Maths and science, featuring excerpts from eight works by recognized experts. The following is a synopsis of what you will find in each chapter.

PART I. READING AND WRITING

Chapter 1. Differentiated Models and Strategies of Reading

Carolyn Chapman and Rita King

Now that I have collected assessment data, how do I use it to differentiate how I help students learn to read? In Chapter 1, Carolyn Chapman and Rita King provide a comprehensive array of options for accomplishing this feat, describing various options like curriculum compacting, projects, guided reading, read-alouds, stations, problem-solving tasks, cubing, and shared reading. Moveover, they provide examples and templates that busy teachers can use immediately.

Chapman and King recommend practical strategies for tiering instruction so that activities can be adjusted to meet specific instructional levels; they also provide diverse options that allow students to learn through varied pathways. For example, they recommend independently driven creative options, such as book making, as well as explicit choices like directly modeling certain reading comprehension reasoning processes. Such diverse activities strengthen alternate capacities and pathways and are more likely to meet the needs of students with diverse learning preferences. The breadth of suggestions provided in this chapter enable teachers to differentiate in creative and varied ways, using student data and their own judgment to determine which of these strategies will best meet the needs of their students.

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Chapter 2. Gradual Release to Accelerate Progress

Lois A. Lanning

Teachers can differentiate the content they teach as well as the instructional strategies they use to deliver the content. Lois A. Lanning addresses how to do both in the area of reading comprehension. In this chapter, she focuses on how to differentiate the specific instructional strategy of using a "gradual release of responsibility" model when developing reading comprehension skills.

Teachers experienced with differentiating instruction will appreciate how Lanning addresses the dilemmas that may arise. For example, teachers often ask, "How do I fade the differentiated scaffolds (or supports) that some need to comprehend what they read?" Abundant strategies exist, and Lanning makes a strong case for four of the most powerful: (1) summarizing, (2) making meaningful connections, (3) self-regulating, and (4) inferring.

Chapter 2 takes the important next step of differentiating not only how these strategies are taught, but how students can be equipped to use them independently. Lanning describes specific, detailed, and comprehensive steps that teachers can take for offering individualized levels of support, and also addresses issues such as how to help students transfer the strategies they learn to all settings. Finally, she addresses the most common challenges teachers face, including how to facilitate the transfer of skills from one task to another and how to accommodate differences in the pace at which different students transfer and generalize the strategies.

Chapter 3. Implementing Multi-Tiered Writing Instruction

Sheila Alber-Morgan

What can teachers do to make fluent writing possible for all students, particularly those who struggle the most? Differentiating writing instruction is the key. In Chapter 3, Sheila Alber-Morgan describes the most stringently validated evidence-based strategies for differentiating writing available. She offers an overview of how to address the five major and timely areas within the writing curriculum—handwriting, keyboarding, spelling, applying the writing process, and using technology—and describes how each can be addressed in the whole-class setting, or Tier 1 instruction. She then describes how writing instruction can be differentiated to meet the needs of students who may require additional Tier 2 and Tier 3 support.

Alber-Morgan's recommended strategies all have powerful research bases that validate their potential, but what makes her work unique is how she brings this research to life by carefully explaining, in easy-to-read terms, how to carry out each step of the recommended methods. In one section of this chapter, the six-stage self-regulated strategy development

(SRSD) model is clearly described, along with almost a dozen different ways in which this model can be differentiated to meet the individual instructional needs of varied students. In another section, extensive resources for differentiating writing instruction, particularly with the use of technology, are offered.

Not only does Alber-Morgan offer a wide array of detailed suggestions, she also provides specific benchmarks students should be expected to achieve in the various areas of writing. For example, she describes how students should grip a pencil, the exact language students should use to direct themselves when writing letters, and even how many letters proficient writers should be able to write per minute. Using such benchmarks enables teachers to monitor and differentiate instruction with far greater precision.

PART II. MATHEMATICS

Chapter 4. Differentiated Instruction and Response to Intervention in Mathematics

William N. Bender

"Differentiated instruction represents a drastic paradigm shift that fundamentally changes the way teachers teach mathematics . . . ," writes William N. Bender. In Chapter 4, Bender contrasts traditional direct whole-class instruction with a model based on adjusting instruction to meet the needs of individual heterogeneous students. His central model for differentiating mathematics instruction, "Guess, Assess, and Tear Out," provides a clear and feasible framework that teachers can build on and customize as they determine how they will differentiate instruction.

Bender acknowledges the challenges of differentiation; teachers frequently feel overwhelmed with all the perceived demands that would come with "teaching three separate lessons," a concern I have often heard teachers express. Bender recognizes these concerns with a "start where you can" and "don't try to do it all at once" position. He shares general global recommendations and tips such as subdividing the class early and often and planning for several activities, both fundamental premises to differentiating instruction that move away from full-class instruction. Through these recommendations and examples, he demonstrates how teachers can shift toward using the diversity in their students as the driving force in lesson planning and instruction.

Bender also provides a simple yet comprehensive five-step plan for implementing response to intervention (RTI) as a route toward differentiating instruction, illustrating how to implement each step through a detailed case study. Throughout this chapter, Bender offers a teacher-friendly vision for differentiating mathematics instruction, one that is grounded in step-by-step plans and classroom examples.

Chapter 5. Supporting Students Who Are Low Achieving

Leslie Laud

Chapter 5 opens with the reminder that each child is a unique mystery, emphasizing the need for preassessments for each unit. Students who struggle in one area may surprise us in unexpected and exciting ways; pockets of unanticipated understandings may surface during preassessments, and the gains that students are capable of making may be all the more striking when scores on preassessments and post-assessments are contrasted.

When students struggle with mathematics, teachers can differentiate instruction for them by identifying the underlying learning profile issues that complicate their learning, such as challenges with working memory, fact retrieval, or visual processing. How these difficulties play out in each discrete unit, ranging from topics such as algebra to geometry, should be assessed. Teachers then have the dual role of strengthening underling capacities and addressing the specific curricular skills needed for each unit.

There may be no magic wand for successfully differentiating instruction for these students so that they can attain proficiency within the same timeframe as students who are average or high achieving; these students require additional time as well as research-validated practices. However, this chapter demonstrates how to differentiate instruction and develop basic skills, conceptual understandings, and procedural routines through research-validated approaches and specific steps and activities. Also woven throughout the text are tips on managing time—a precious resource that these students need to use as efficiently as possible. Many reproducibles and suggestions support teaching for proficient understanding while helping students compensate more effectively for the underlining areas that cause struggle.

Chapter 6. Challenging Students Who Are High Achieving

Leslie Laud

Differentiating instruction for students who are high achieving in mathematics is a task filled with rich and rewarding possibilities. This chapter presents research on two basic methods: providing exemptions and cultivating higher order thinking capacities. Leslie Laud provides detailed descriptions of strategies as well as models for structuring these exemptions (and the replacement tasks) when students master basic curriculum at an accelerated pace.

Chapter 6 offers an overview of the specific patterns of strengths to expect from high achievers and how these students process information in qualitatively different ways. Using this framework to help identify the common cognitive patterns these students demonstrate, teachers can tailor tasks so that they better challenge and stretch students' learning. Teachers

can use the models provided as a framework for evaluating and modifying the kinds of enrichment and curricular adjustments they offer their students who benefit from additional challenge.

Chapter 7. Mathematics Interventions Overview

Paul J. Riccomini and Bradley S. Witzel

Widely used in the field of literacy, response to intervention (RTI) provides a model that enables many struggling readers to excel. Given the success of this model, educators have sought to use the same approach in mathematics, but differences between the fields complicate this transfer. While acknowledging and addressing these differences, Paul J. Riccomini and Bradley S. Witzel provide a comprehensive overview on differentiating mathematics instruction within an RTI model. This approach is informed by the authors' backgrounds as both practitioners and researchers who have contributed much-needed current empirical research to the field, enabling them to provide a quick up-to-the-minute overview of the research along with clearly stated implications for guiding instruction.

In Chapter 7, the authors describe both evidence-based instructional and curricular approaches for tiering instruction to meet the needs of diverse learners. They raise and respond to the major questions on the minds of mathematics teachers: *Who needs intervention? What do I teach for intervention? Who should intervene and for how long?* Riccomini and Witzel's responses and extensive resources provide a structured jumping-off point that can expedite the process of differentiating mathematics via an RTI model, focusing on promising full-class instructional strategies along with options for differentiating support in more targeted, tiered interventions; providing detailed descriptions and examples of specific curricular approaches; and offering a list of mathematics interventions and programs resources for teachers.

PART III. SCIENCE

Chapter 8. Differentiated Science Inquiry

Douglas Llewellyn

In Chapter 8, Douglas Llewellyn provides an in-depth description of a model for differentiating science inquiry through a hands-on science lesson on motion energy. He lists the standards and goals addressed and then suggests starting the lesson with an embedded preassessment about prior conceptions surrounding motion energy, explaining how teachers can quickly analyze this information and use it to drive the next instructional decisions to be made as the lesson continues. Llewellyn also describes several learning stations, each designed to develop different

facets of understandings surrounding motion energy and to help students come to certain fundamental shared overall outcomes.

Llewellyn's model can be replicated and used to teach most areas of the science curriculum. Built into the model are opportunities for students to feel safe (they get to choose the station), to feel challenged (supports and extensions exist within each), and to become active meaning makers—all essential components of effective differentiated instruction. This lesson also brings to light two essential qualities for the person designing the lesson: deep content proficiency combined with expertise in differentiating instruction in ways that are most likely to build this proficiency in students. Llewellyn presents an ideal but also acknowledges that the ideal may not always be possible, offering progressively scaled-down options and versions that teachers can use based on available resources and where they are in mastering the differentiation process.

Chapter 9. Methods and Effective Practices for Increasing Student Achievement

Gayle H. Gregory and Elizabeth Hammerman

Science learning draws on multi-faceted capacities. Just a few that students are expected to master include logical thinking, synthesizing new understandings or insights from data, memorizing definitions, and using guided inquiry processes to confirm or disconfirm hypotheses they have generated. In Chapter 9, Gayle H. Gregory and Elizabeth Hammerman tackle a comprehensive overview of the many areas that come into play in science instruction. They relate all of these areas to the latest research on effective practices and brain research, but they don't stop there—they then provide detailed lists of examples of how these practices can actually look when used in science classes. Woven throughout are suggestions for how teachers can adjust instruction to meet the needs of students who excel through strategies such as curriculum compacting. Structured options for how to adjust tasks to offer differentiated support to learners who might struggle in some areas are also provided.

Gregory and Hammerman ambitiously cover tremendous ground in this chapter, ranging from the varied methods that can be used to teach the different areas of science learning to the latest and most compelling research that supports the effectiveness of how best to do so. The many examples demonstrate the kind of assistance that some students will require and the extensions that will stretch others, with the goal of enabling each student to experience what the authors refer to as "flow" while they learn about science.