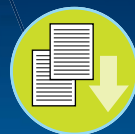


RICHARD M. CASH, Ed.D.

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# Advancing Differentiation

Thinking and Learning for the 21st Century

Revised  
& Updated  
Edition

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Foreword by  
Diane Heacox, Ed.D.

# Praise for *Advancing Differentiation*

“If you find it difficult to navigate the often-perilous landscape of differentiation, Dr. Cash is the guide and guru you need. His gift to you is this survival kit. Use it well!”

—**David Michael Slater**, teacher and author of over twenty books for children, teens, and adults

“My graduate students call this the ‘blue book,’ an apt title for a volume that defines value in education. They routinely report that they keep their copy on their desks long after their course is over. The second edition is even stronger than the first, with its increased focus on concept and capacity building. Many view differentiation in standards-based classrooms as an impossible dream, but Richard Cash joyfully and capably provides valid and viable strategies for teachers who know in their hearts that there is more to education than one-size-fits-all thinking.”

—**Frances R. Spielhagen, Ph.D.**, professor of education and director of the Center for Adolescent Research and Development (CARD) at Mount Saint Mary College

“*Advancing Differentiation* is a game changer! This book helps me navigate through the challenges of differentiation by providing rigorous and practical methods that help my students uncover the deeper layers of learning.”

—**John Born**, 7th-grade social studies teacher

“*Advancing Differentiation* is a fantastic resource for teachers and teacher leaders to develop their understanding of differentiation. This book provides a number of powerful tools for teachers to develop their questioning skills, embed critical thinking into their classrooms, and create a learning environment that will motivate and engage a diverse range of learners.”

—**Jake Duke**, STEM curriculum developer, Bellevue School District

“Cash adeptly blends advanced content, complex thinking, and conceptual understanding with the technologies of twenty-first century learning. This second edition lays out the essential components of a differentiated classroom including emphases on teaching big ideas through critical and creative thinking and problem solving. Cash blends theoretically sound ideas regarding curriculum and instruction with clear guidance for applying differentiation in authentic learning spaces. This is a great book for teachers and curriculum designers.”

—**Todd Kettler, Ph.D.**, assistant professor, College of Education, University of North Texas

“One of the most inspiring and practical books I’ve read in years . . . I was blown away by how useful all the chapters will be to our profession.”

—**Rick Wormeli**, writer and teacher trainer, author of *Fair Isn’t Always Equal* and *Differentiation: From Planning to Practice*

“Amazingly comprehensive . . . [this] book is an excellent resource for administrators and classroom teachers alike. Dr. Cash provides countless practical applications [and] makes a case for differentiation for the purposes of raising student achievement and Response to Intervention (RTI), in addition to the increasingly diverse populations our districts encounter in the century.”

—**Anne Roloff, Ph.D.**, past president of Illinois ASCD and assistant superintendent for Curriculum and Instruction, Niles Township High School District, Skokie, Illinois

“How I wish I had this book when I was a principal. I had many new, young teachers, and this outstanding approach to teaching would have made my life as a mentor much easier. The clear writing, commonsense approaches, and suggestions and charts will give any teacher—new or seasoned—confidence and motivation. A fine, practical addition to our field.”

—**Judith Roseberry**, consultant, past president of California Association for the Gifted

“Cash not only provides the big picture of the landscape of differentiation, he clearly demonstrates his expertise in both the art and the science of teaching. He consistently advances his message that all students can learn at high levels and deserve rigor and challenge. This is an essential book for teachers as they encourage new ideas and creative productivity in their students in the current educational landscape.”

—**Felicia A. Dixon, Ph.D.**, professor emerita of psychology, Department of Educational Psychology, Ball State University

“Cash’s approach to differentiation is refreshing, authentic, and practical. He takes a complex philosophy and brings it alive through his writing . . . This publication should be in the hands of all teachers.”

—**Jaime A. Castellano, Ed.D.**, assistant center director at the Luciano Martinez Child Development Center, West Palm Beach, Florida, and professor at Florida Atlantic University, Boca Raton.

“Richard writes with a clarity that appeals to both the novice and the seasoned educator. I’ve yet to read a more comprehensive teacher guide. *Advancing Differentiation* just moved to the top of my recommended list!”

—**Jeff Danielian, M.Ed.**, teacher resource specialist, editor-in-chief of *Teaching for High Potential*, National Association for Gifted Children

“Dr. Cash takes differentiated instruction to a new level of urgency and pedagogical quality . . . This book is a breath of fresh air.”

—**Scott J. Peters, Ph.D.**, assistant professor, Department of Educational Foundations, University of Wisconsin–Whitewater

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RICHARD M. CASH, Ed.D.  
Foreword by Diane Heacox, Ed.D.



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## Dedication

To my parents, Elizabeth and Cecil Cash, who taught me how to think, encouraged my creativity, and told me I could do anything I set my mind to.

This book was born out of ideas I've gathered and generated throughout my years as a teacher. None of this would have been possible if it weren't for the exceptional mentoring and guidance I received from my friend and colleague, Mrs. Barbara Ford. Mrs. Ford, thank you for helping me become who I am today.

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To the best editor I've ever had, Meg Bratsch: your finesse with my thoughts made me look good. You were a joy to work with.

I also want to thank my brothers Robert and John Cash, my sister Susan Swinick, and my dear friend Jennifer Stevens for never letting me get too big for my britches.

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Finally, I extend my sincerest appreciation to my goddesses: Barbara Dullaghan and Julie Donaldson. Your passions for excellence, insights into learning, and love for the students keeps me grounded in why we do what we do!



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# Foreword by Diane Heacox, Ed.D.

As teachers, we are frequently presented with new educational paradigms, school and government initiatives, and an ever-expanding list of “do’s.” This is what keeps us engaged and learning, but it can also feel a bit overwhelming.

Today’s students differ greatly from each other and their learning needs vary even more dramatically than ever. Such classroom disparities require educators to think differently about teaching and learning. Richard Cash’s *Advancing Differentiation: Thinking and Learning for the 21st Century* is a comprehensive resource that enables teachers to deepen their understandings of differentiation as well as prepare our students for their tomorrows.

Teaching for an increasingly more diverse world means infusing more complexity and rigor in learning, focusing on conceptual knowledge beyond subject-specific knowledge, employing strategies to engage and motivate learners, building student self-regulation skills and learning autonomy, and developing students’ thinking proficiencies. This is no small charge. However, the insights, ideas, and easy-to-implement strategies in this book enable you to critically examine your current classroom practices. Planning templates are offered to easily guide you in developing new teaching habits and routines.

The first six chapters provide ideas for optimizing curriculum and instructional practices to increase student achievement. Richard defines the essential elements of curriculum for the twenty-first century, as well as ways to motivate and actively engage students in the learning process. Focusing on best practices, he also includes an overview of how the brain learns and the impact of culture and gender on learning.

This revision contains many new concepts and ideas to explore and put into action in your classroom. Particularly helpful is Richard’s step-by-step process for developing concept-based learning. He contends that for our students’ futures, we need to place less emphasis on factual knowledge and a greater focus on procedural and conceptual knowledge. He provides a curriculum map template and

unit planning tools to guide teachers thoughtfully through this shift in their curriculum.

Additionally, new templates and figures deliver fresh insights into designing tiered assignments and embedding technology, experimentation, inquiry, and problem solving in authentic learning tasks. Our understandings of the effects of poverty on learners, as well as the importance of self-regulation skills, are deepened in this edition.

Advances in technology have altered the very nature of pedagogy. The tools of technology and the tremendous access to information have changed the act of teaching. Richard considers both the positives and negatives of classroom technology and challenges us to consider that the efficiency of technology in supporting learning is enhanced through the thinking and learning habits of our students. This revision also examines how the “flipped classroom” may enhance differentiation in your classroom.

The Teaching and Learning Continuum (TLC) in Chapter 6 may be of particular interest to teachers. We want our students to take more responsibility for and control of their learning. However, students do not necessarily develop skills of autonomy independently as they mature. The TLC model suggests that in order to move all students toward greater autonomy, we must change the role of the teacher and the learner. Specific strategies for guiding students to greater levels of autonomy are clearly outlined in this chapter and throughout the book.

The final four chapters focus on the skills essential for our students’ success in the future. Richard introduces us to the foundations of thinking proficiency: critical reasoning, creative idea generation, problem finding and solving, and decision making. He coaches us in our efforts to formally introduce thinking skills to students, bring the skills to the students’ consciousnesses, and embed the skills in our curriculum and lessons. He provides generous examples of lessons bridging many grade levels and curriculum topics. Graphic organizers provided for thinking skills will save you

preparation time. Richard's concept of "digging deeper into Bloom's" will change the way you use the Bloom's Taxonomy model in your classroom.

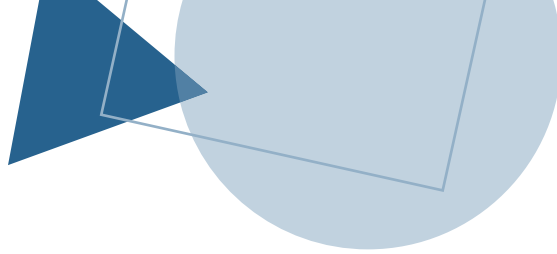
*Advancing Differentiation* is your go-to resource as you extend your practices in differentiation and increase your focus on twenty-first century skills, dispositions, and attitudes essential for a progressively more complex world. All educators—from novices to master teachers—will find next steps in their professional development within the pages of this comprehensive book. Strategies, templates,

tools, and examples will make your work in preparing your students for their futures both doable and practical. Enjoy this engaging and enlightening book as Richard Cash guides and coaches you in developing new habits in teaching and learning.

**Diane Heacox, Ed.D.**

Author of *Differentiating Instruction in the Regular Classroom* and *Making Differentiation a Habit*, coauthor of *Differentiation for Gifted Learners*, and Professor Emerita of Education at St. Catherine University in St. Paul, Minnesota





# Introduction



We are now at a point where we must educate our children in what no one knew yesterday, and prepare our schools for what no one knows yet.

—Margaret Mead, cultural anthropologist



Mrs. Donaldson is a sixth-grade teacher in a suburban school district. Her 30 students come from four continents, speak seven different languages, represent every major ethnic group, range in economic status from disadvantaged to wealthy, differ intellectually from developmentally delayed to gifted, and are a genuine cross-section of social and emotional needs. One thing her students have in common is they are all learning. She has made an effort to know each student as an individual, understands their learning preferences, is familiar with their interests and cultural backgrounds, and continually assesses them to find out what they know and don't know, what they are and aren't able to do, and what they understand and don't understand. While she has constant demands on her time as a teacher, she's made it a priority to differentiate her instructional strategies as well as her learning environment. It's paying off in her students' success and in her classroom's efficiency. Mrs. Donaldson's not an expert on differentiation—and she doesn't need to be—but she's on the journey toward proficiency.

I have observed and worked with hundreds of teachers like Mrs. Donaldson; they inspired me to write this book. In our challenging time of new standards, evolving high-stakes testing, efforts to eliminate the achievement gap, and constant political pressure to improve student performance, I am continually amazed by these teachers' passions for ensuring every child is not only prepared to meet standards and pass tests, but is truly prepared for future success.

## The Next Level of Differentiation

Today's classroom is far different from the one many teachers, parents, and business professionals encountered during their own 13-plus school years. Advances in technology like one-to-one tablet or laptop initiatives, continued developments in learning and brain theories, and expansion of knowledge are just a few of the forces requiring educators to change the way they teach children. In addition, student needs today vary more dramatically than ever. Students come to our classrooms with preparation ranging from early exposure to vast amounts of information to limited access to reading materials. Student learning differences are developing and being identified earlier and are more wide-ranging. These differences include sensory processing disorders; emotional and behavioral issues; differences in memory, abstraction, or sequencing ability; dyslexia; ADHD; autism; degrees of English language proficiency; and various levels and types of giftedness, among many others. Such disparities require us to think differently about how we design our curriculum and deliver instruction.

When we truly know our students, we are better able to meet their needs and direct our curriculum and instruction toward ensuring their success. However, the curriculum many of us use in our classrooms, in the form of textbooks and other classroom learning materials, is often not enough to meet the myriad needs of learners and prepare

them for their futures. While retaining fidelity to a standards-based curriculum is essential, it also is our job as teachers to adapt and enhance this curriculum when needed to ensure our students' success. This often means infusing more rigor and conceptual knowledge into the curriculum, employing specific strategies to engage and motivate students, building students' self-regulation skills and learning autonomy, and, perhaps most importantly, making certain our students are not just learning but also are *thinking*.

## The Importance of Thinking Skills in Today's World

As Margaret Mead so aptly stated, "Children must be taught how to think not what to think."<sup>1</sup> Beyond the need for a rigorous curriculum and differentiated instruction is the core need for thinking skills. In today's differentiated classroom, students and teachers must work together toward a common goal of thinking proficiency. In addition to subject-specific knowledge, thinking skills are crucial to students' future success in their work, personal, and community lives. Thinking skills, most generally, include the ability to take in and make sense of new information and connect, apply, and transform that information into unique and novel ideas. Proficiency in thinking involves the capacity to analyze information and find problems, evaluate evidence through critical reasoning, and then creatively synthesize ideas to generate new knowledge.

Our students must be equipped to think differently, cogently, and flexibly to thrive in today's world. A 1991 school improvement research report cited, "In the twentieth century, the ability to engage in careful, reflective thought has been viewed in various ways: as a fundamental characteristic of an educated person, as a requirement for responsible citizenship in a democratic society, and, more recently, as an employability skill for an increasingly wide range of jobs."<sup>2</sup> Now in the twenty-first century, with the fast and furious advances in technology, vast increases in the amount of information at our fingertips,

diversification of the workforce, and the "flattening" of the world through global trade and communication—it is more crucial than ever that our students be taught these skills of effective thinking. Being able to think, both critically and creatively, is the characteristic that will determine whether our students succeed as members of today's workforce and society, and tomorrow's.

The Partnership for 21st Century Learning, a national advocacy organization in the United States, has defined five essential competencies that help employees and citizens be successful in this century. They include *adaptability*, *self-direction*, *cross-cultural skills*, *productivity*, and *leadership*. In addition, the organization has identified the five major interdisciplinary themes these thinking skills will likely be centered on: *global awareness* and *financial, civic, health, and environmental literacy*.<sup>3</sup> Similarly, the Global Digital Citizen Foundation, "a nonprofit organization dedicated to cultivating responsible, ethical, global citizens for a digital world," suggests that students need to be proficient in "transparency-level skills" of:

- problem solving
- creativity
- analytic thinking
- collaboration
- communication
- ethics, action, and accountability<sup>4</sup>

Thus, effective thinking skills are imperative for our students to develop into individuals who are able to locate and prioritize information, employ ever-advancing technologies, retain and continually build on essential knowledge and skill sets, and contribute innovative solutions to increasingly complex societal and environmental problems. Proficient thinking will also enable students to relate to people of diverse backgrounds, maintain functional relationships, manage their individual goals and identity, make wise financial and personal health choices, and participate as informed citizens in a democracy.

An engaging, rigorous curriculum that infuses high-level thinking skills, delivered through authentic differentiated instructional practices within a student-centered classroom

1. Mead, M. *Coming of Age in Samoa: A Psychological Study of Primitive Youth for Western Civilization*. New York: William Morrow, 1928.

2. Cotton, K. "Close-Up #1: Teaching Thinking Skills." *School Improvement Research Series Report*. Northwest Regional Educational Laboratory (NWREL), 1991.

3. The Partnership for 21st Century Learning ([p21.org/our-work/p21-framework](http://p21.org/our-work/p21-framework)).

4. The Global Digital Citizen Foundation ([globaldigitalcitizen.org](http://globaldigitalcitizen.org)).

environment—this is what will ultimately guarantee our students’ current and future successes.

## About This Book and Digital Content

### What’s New in This Revised Edition

Since the original release of *Advancing Differentiation*, I’ve had the great pleasure of working with numerous schools and districts around the world to improve education for all students. With the help of educators from those schools, I’ve gained new ideas and made refinements to this text. The purpose of this revision is to share with you the most up-to-date practices in differentiating curriculum and instruction.

Although updates were made throughout the book, the most significant changes occur in the early chapters. Those chapters give you a clearer understanding of what can be differentiated and how to best achieve the results you are seeking. Also, Chapter 1 discusses the crucial question, *Why differentiate at all?* Teachers, educational coaches, lead teachers, and administrators will find useful self-assessment surveys, observation forms, and new ideas for increasing proficiency in classroom differentiation.

Chapter 2 provides ways to address the changing needs of the future workforce. As our world moves at lightning speed, so too must our approaches to students’ learning processes. An articulated curriculum design defines the differences between strategies and skills and refines the levels of conceptual knowledge. Schools and districts I work with have provided exceptional examples of ways they have aligned their curriculum by using the concept-based map and unit plan.

Other new elements and ideas include:

- designing authentic learning and tiering assignments and activities (Chapter 3)
- working with students living in poverty (Chapter 4)
- using learning centers and stations to develop self-regulation (Chapter 5)
- developing activities that promote autonomous learning (Chapter 6)

- teaching students the steps to asking good questions (Chapter 7)
- additional examples of the Digging Deeper Matrix (DDM) (Chapter 8)
- more critical thinking templates (Chapter 9)
- encouraging creativity in math (Chapter 10)

### About *Advancing Differentiation*

As suggested in the title, *Advancing Differentiation: Thinking and Learning for the 21st Century* is intended to move you from where you are now in the procedures of differentiation to the next level of infusing the thinking and learning skills essential for student success and college and career readiness. The book is divided into two parts, both focused on evolving your practice of differentiation. Part One helps you better articulate the content (what you expect students to learn) and how you organize the environment (brain-compatible learning) so your students are more successful in acquiring and achieving standards and goals. You will be introduced to methods for defining the essential components of your curriculum and ways to motivate, engage, and build your students’ responsibility in the learning process. Part Two is focused on the process (how students think through the learning) and products (how students can eloquently show what they have learned). The book’s second half guides you through infusing and implementing 21st Century Skills. It defines the various levels of thinking and provides a wealth of practical strategies that can be applied to any classroom.

Together, the two parts of this book combine the concept of differentiation with the skills our students need for success in the twenty-first century. When considering the actions of differentiating content, teachers must be aware of the concepts, procedures, and facts they want their students to understand, be able to do, and know. Conceptual levels of learning are supported through the execution of procedures and implementation of facts. It is these understandings of concepts that move our students to greater degrees of success in today’s world. Being able to aptly apply skills and procedures in multiple contexts and in automatic ways gives students the mental time and energy to problem solve, reason critically, and



think creatively. This all is supported with a strong knowledge base in and among disciplines.

The essential goal of this book is to help teachers create a classroom environment that identifies and embeds twenty-first century skills within the curriculum, reinforces these skills through instructional practices, and requires the generation of creative and original products. Additional goals are included in the following list.

## The Goals of This Book

- To clarify how differentiation can be taken to the next level in today's classroom
- To provide methods for defining the key components of your curriculum: what students should understand, be able to do, and know
- To offer ideas for creating effective unit-based and essential questions
- To examine what constitutes a quality, rigorous, concept-based curriculum
- To lay out a framework to help you create effective, engaging, exciting, and enriching learning opportunities that guide all students to deeper levels of thinking
- To present research and evidence-based information on student motivation and engagement
- To offer an overview of how the brain learns, including the impacts of gender, ethnicity, and cultural background on learning
- To supply useful strategies and helpful assessment formats that can increase student achievement
- To provide valuable tools for developing student self-regulation and responsibility in learning
- To offer a unique design for increasing student autonomy in the learning process
- To outline numerous strategies for infusing the skills of critical and creative thinking, problem finding, problem solving, and decision making
- To define essential tools for building a classroom centered on student learning and thinking proficiency

**Part One** (Chapters 1–6) leads you through the process of taking your current differentiation practices to the next level. In order to masterfully

differentiate instruction, you must have articulate knowledge about how your curriculum is designed. Knowing what goes into the construction of curriculum will help you define what is essential, learn how to increase rigor, motivate and engage your students, and thus develop lifelong learners.

**Chapter 1** explains how, with the ever-changing demographics and needs of students, differentiation takes on a new immediacy in today's classrooms. *Differentiated instruction* is a crucial strategy within leading instructional paradigms such as Multi-Tiered System of Supports (MTSS) and Response to Intervention (RTI). Many myths surround differentiation: what it is and is not, what it can and cannot do. This chapter dispels these myths in both the classroom and school culture of student success. It also presents Figure 1.1 The Pros and Cons of Technology Use and discusses the impact of technology use on classroom instruction. Included in this chapter is the 10 Elements of a Differentiated Classroom Survey. This handy tool can be used as a personal self-awareness gauge or as a building-wide focusing tool for professional development.

**Chapter 2** outlines the *essentials of the curriculum* you deliver in the process of differentiating. The focus of this chapter is to relate the three levels of knowledge construction: what your students should understand, be able to do, and know. These levels also relate to the three types of knowing: conceptual knowledge, procedural knowledge, and factual knowledge. Factual knowledge includes the terminology, specific details, and basic elements that students must be acquainted with to work within the discipline. Skills, procedures, techniques, and thinking strategies are all examples of procedural knowledge. The highest level of learning is conceptual knowledge, which provides students with a framework for understanding the relationships between disciplines—from classifications, to principles and generalizations, to theories and models. Conceptual knowledge is also defined in levels of abstraction from universal to content-based to self-regulatory.

**Chapter 3** defines and asserts the need for a *rigorous curriculum* that is effective, engaging, exciting, and enriching (an “E<sup>4</sup>” curriculum). The chapter highlights the need for all students to engage in conceptually based complex learning

tasks that allow them to explore content through various learning modes. Students are stretched in their learning when they complete authentic tasks. Additionally, students gain ownership of the learning when they engage in substantive conversations about content that is relevant to their lives. Ideas for increasing authentic learning and tiering assignments and activities are included in this chapter.

**Chapter 4** guides you in creating a learning environment in which students develop the intrinsic desire to learn. *Intrinsic motivation* is achieved when learning tasks stimulate students, develop their interests, and foster appropriate skill development. Engaging students in interesting, fun, and personally meaningful tasks makes them want to learn. This chapter offers suggestions for developing a classroom that is based on student choice and is intrinsically motivating. It explores learning preferences and how you can use them to improve achievement. It provides instructional ideas related to gender and cultural differences and working with students in poverty, as well as various brain-compatible learning strategies and examples. Robert Sternberg’s model of “Successful Intelligence” also is explained and related curricular formats are offered. Finally, this chapter outlines a *three-phase assessment process* that both motivates students and helps you determine their readiness levels. Assessment *before* learning identifies which skills and processes students possess at the beginning of each lesson. Assessment *for* learning is the systemic, ongoing, dynamic process of collecting and analyzing data to improve student learning. Assessment *of* learning identifies how close the student came to achieving the learning goal. This section offers tips and suggestions for assessment application and grading practices.

**Chapter 5** provides strategies for encouraging *self-regulation* and building a student-centered classroom. When students have an awareness of their own learning process, it helps them monitor their progress, make changes and adaptations when necessary, understand the usefulness of various learning strategies, and recognize the direct relationship between effort and learning. Five key elements are defined for mobilizing resources to improve student self-regulation. The chapter also shows you how to use the theory of mindset to

assist learners in developing metacognitive awareness to achieve their goals. Finally, reflection on the learning process is critical to understanding successes and gaps in learning. Several ideas are offered for developing efficient reflective practices. You will also gain a greater understanding of how to use centers and stations in your classroom to develop students’ self-regulation.

**Chapter 6** discusses the benefits and goals of student *learning autonomy* and introduces the Teaching and Learning Continuum (TLC) model. Teaching students to be self-directed learners is fostered through a gradual transformation in student and teacher roles. Without a progressive instructional design, students may struggle in conducting quality independent learning. Building on a synthesis of research on teaching and learning, the TLC offers a framework for the changing roles and responsibilities of both teacher and student. As the learner gains skills toward self-guidance, the teacher becomes more consultative. Also suggested are classroom strategies, practices, and activities for developing each level of student independence and autonomy.

**Part Two** (Chapters 7–11) guides you in implementing effective high-level thinking skills in your differentiated classroom. This section articulates and defines the concept of thinking and offers ways to integrate thinking skills into any curricular area, topic, or grade level. It also provides a template to use as an overlay to enhance and extend material offered in textbooks.

**Chapter 7** asserts that the foundations of *thinking proficiency* are critical reasoning, creative idea generation, problem finding and solving, and decision making. This chapter explains the need for both divergent and convergent thinking, and defines the characteristics of a thinking student, a thinking classroom, and a thinking curriculum. It also provides methods for developing intellectually disciplined thinkers.

**Chapter 8** constructs a *framework for thinking* by using Benjamin Bloom’s Taxonomy of Learning and Robert Marzano’s Advanced Taxonomy of Learning to explore various questioning techniques and lesson designs. This chapter provides you with strategies to move learners from basic to complex

levels of thinking, and from automatic reproduction to conscious self-awareness in the learning process. Examples of the Digging Deeper Matrix (DDM) will show you how to advance learning for all students.

**Chapter 9** discusses *critical thinking*, which entails making decisions based on the evidence at hand. Without sufficient training in critical thinking and reasoning, students often use emotion, opinion, or instinct to make decisions. This chapter presents strategies and curricular ideas for how students can form questions to build relevant claims and inform the decision-making process. Helpful graphic organizers and examples are also included.

**Chapter 10** emphasizes the importance of *creative idea generation* in the classroom. As our world changes more rapidly each year, our students must be provided with the skills to develop their own creativity and creative thinking abilities. The ability to think “outside the box” is framed through fluency, flexibility, originality, and elaboration (FFOE). This chapter defines these four elements and articulates curricular connections. Strategies for supporting a creative learning environment are also introduced. Of special note are the ideas for encouraging creativity in mathematics.

**Chapter 11** illustrates the process of approaching learning through the lens of *problem finding and solving* in order to engage learners more completely. For students to solve problems, they need a tool kit filled with many diverse tools. This chapter provides problem-finding techniques, problem-solving strategies, as well as decision-making skills.

Finally, the **Final Note and Conclusion** review the key points of the text and also revisit the issue, presented in Chapter 1, of technology in the classroom and discuss how it can be successfully incorporated as an important component in thinking and learning for the twenty-first century. Included is a graphic depicting the connection, made throughout the book, between differentiation and twenty-first century thinking and learning.

The digital content (see page viii for how to download) includes all of the reproducible forms from the book as PDFs. Many of the forms can be customized on-screen before printing them out. In

addition, a slideshow presentation is included for use in professional development.

If you wish to use the book in a professional learning community or book study group, a PLC/Book Study Guide with chapter-by-chapter discussion questions and teaching suggestions is available. You may download the free guide at [freespirit.com/PLC](http://freespirit.com/PLC).

## How to Use This Book

*Advancing Differentiation* brings together essential elements of curriculum design and the latest research on thinking and learning. This book is a culmination of my journey as a student of learning. I’ve connected the theoretical ideas into practical, proven strategies that can increase students’ achievement and ultimately lead to their future success.

My intent with this guide is to support classroom teachers, teacher coaches, school administrators, and curriculum developers in enriching and enhancing the learning experiences of all students. I also believe this book serves as an excellent resource for teacher education college courses. The ideas, strategies, and techniques fit within any content area, grade level, or ability level. While sample figures and templates may illustrate higher grade levels, they can easily be adjusted for lower grade levels, and vice versa.

By using the 10 Elements of a Differentiated Classroom Survey in Chapter 1, you may decide to pursue various directions. You may choose to go through the book chapter by chapter, building a rigorous curriculum and a thinking classroom from the sequential flow of the text. Or, you may choose to review the text in its entirety, examine your current practices, and then select individual chapters that can help you refine what you are already doing to ensure all of your students are thinking and learning. For example, you may find that your existing textbook materials do not offer enough information about concept development or provide for rigorously engaging activities. You will then want to focus your attention on Chapter 3: *Advancing Differentiation to New Levels Through a Rigorous Curriculum*.

If you are a specialist outside the role of a classroom teacher—such as a teacher coach, curriculum coordinator, gifted and talented specialist, or school administrator—this book can be a valuable resource. How do you help teachers understand how curriculum is designed? In what ways can you help teachers and students create their own essential questions? How do you get students to think effectively in this age of standardized testing? How do you infuse thinking skills without having to remove something else from the curriculum? You will find the answers to these questions and more within these pages.

You may be asking yourself, “Where do I begin? How do I get started? What do I need to know?” I suggest starting small. Get a taste for

success. Take one idea or topic from this book and make it work for you and your students. I’ve arranged each chapter to provide a general overview of the theory that grounds the practices, and then give plenty of examples of how to apply the ideas to your classroom. Not every idea presented here will work for you, but many can be adjusted and modified to fit your students and curricular needs. I hope that you will find this text to be an essential resource in your classroom, school, and district to engage your students in the art of thinking, increase their achievement, and ensure lifelong success.

Enjoy!

**Richard M. Cash, Ed.D.**



# Taking Differentiation to the Next Level

The following six chapters serve as a valuable resource in building your portfolio of differentiated curriculum and instruction practices. The art of differentiation is about being proactive in meeting *each* of your students' learning needs. Having a greater storehouse of ideas, strategies, and techniques can better prepare you for the diversity of these needs in the twenty-first century.

# Defining How Differentiation Looks in Today's Classroom

Differentiated instruction is a way of taking into account the needs and wants of others without relinquishing our own needs and wants, or dominating and controlling the other person. In that way, differentiated instruction is more than just a method of teaching; it is a way of being human.

—Carol Ann Tomlinson, author and educator

As a teacher these days, you have likely been introduced to a plethora of “new” initiatives that can improve how your students learn. Integrated math, whole language, standards-based assessment, newly designed standards—the list goes on. For years, teachers of gifted and talented students (such as myself) have been required to use the strategies of differentiated instruction, because not all gifted students are gifted in the same way. Outstanding pioneers of gifted education such as John Feldhusen, Joseph Renzulli, Joyce VanTassel-Baska, and Sandra Kaplan instructed teachers of gifted kids how to identify their students’ strengths and limitations, build units based on higher order thinking skills (or HOTS), and create lessons that were loaded with critical reasoning and creative thinking. This education of gifted and talented students was known by the acronym GT. I see now, however, after many years working with a broader group of students, that what we have learned in gifted and talented education can be applied to *all* students at varying degrees of sophistication. I now call GT: great teaching! This book is full of GT ideas, strategies, and techniques for every learner.

## A Primer for Differentiation: The Whats, Hows, and Whys

Differentiation is not simply the act of creating a variety of options for students or making some activities more or less structured. The theory behind differentiation is to focus on individual learners and be aware of where they begin their learning and where they need to go. We need to know the steps along this pathway and provide students with appropriate guidance toward achievable goals. To do this, we identify what our students need to know, be able to do, and understand to be successful in this new century. This chapter examines *what* can be differentiated, *how* it can be differentiated, and most critically, *why* it needs to be differentiated.

### What Can Be Differentiated?

#### Differentiate Environment: The Where and When of Learning

In past centuries, to learn meant going to school where the textual information and teacher knowledge existed. That no longer holds true today. Information of all kinds is available from multiple resources, most specifically the Internet. Our students may now be doing more learning outside

the classroom than inside it. The environment of learning has changed dramatically with the advancement of technology and new understandings of how learning happens.

Differentiating the learning environment involves many more dimensions than simply the classroom arrangement. Though classroom arrangement is powerful, we need to think beyond the room's four walls. Consider using a "flipped classroom" as a way to differentiate the environment. A flipped classroom rearranges classroom instruction and homework. In a typical classroom, the teacher delivers content through direct instruction or other pedagogical methods, and then students take work home to practice the new content. In a flipped classroom, content is delivered through short videos (or other mediums) viewed by students at home, and the teacher works directly with students to practice the new content during class time. While there is no single model for a flipped classroom, the underlying concept is to reverse what students do in and out of the classroom in order to increase students' engagement, decrease incorrect practice, and involve the teacher more directly in students' learning.

### DIFFERENTIATION IDEAS FOR FLIPPED CLASSROOMS

Flipping the classroom is more than just having kids view videos at home. Think of it as time-shifting direct instruction to outside the classroom, while providing more face-to-face time with students inside the classroom. Consider what can be gathered outside the classroom (such as facts and background knowledge) and how it might be delivered.

#### Use a flipped classroom for:

- previewing a topic
- pre-teaching vocabulary
- reteaching lessons
- posing questions
- gaining prerequisite knowledge
- teaching various levels of courses within one room (such as world languages or mathematics)
- students with different learning needs or requiring extended time
- leveled activities based on readiness
- enriching and enhancing topics of study based on interest
- self-paced learning
- independent or self-directed learning
- learning stations or centers
- reviewing for quizzes or exams

#### Ways to flip:

- host an online Moodle or Blackboard conversation (using internal servers)
- create movies by lesson, topic, or unit using video editing software
- have students create videos of topics as final assessments that can then be saved each year for other students to view for pre- or reteaching, review, or self-paced learning
- use selected websites, such as Khan Academy
- assign Internet searches on topics of interest
- make a video of your lectures and provide them to students on DVDs, flash drives, or in a shared cloud storage folder for home viewing
- provide students with screen captures of your direct instruction
- create digital presentations with voiceover instruction
- assign audiobooks

#### Flipping requires:

- careful planning and additional work on your part (at least at first)
- knowledge of new technologies and presentation formats
- time to create recordings of instruction
- student access to technology outside of school
- preparing students to take responsibility for consuming material at home
- motivating students to gather information at home
- revising class time to involve highly interactive and hands-on learning
- forward thinking in situations when technology fails or students are not prepared

#### Benefits of flipping the classroom:

- promotes student-centered learning
- greater student engagement through technology



- students learn to take responsibility for and control over their learning
- visual learners enjoy learning through seeing
- students can consume material at their own pace
- students can reconnect with the content if they need review or reteaching
- as students apply new learning, the teacher is present to offer real-time feedback
- better student-teacher interactions
- can improve student achievement
- can improve students' attitudes toward learning
- makes home connection more valuable because parents can see what is being taught

## Differentiate Content: What You Want Students to Learn

The content, or curriculum, is what you want your students to learn. More than just what you teach, what you want students to *learn* is the focus of differentiation for the twenty-first century. Content is defined as what students need to know factually, be able to do procedurally, and understand conceptually. Many ideas for increasing the depth and complexity of your content will be shared in later chapters.

## Differentiate Process: How Students Own the Learning

Some students enjoy working in groups, while others like to learn alone. Some students need more scaffolds or practice to develop skills, while others need less time and practice. The learning process involves the lessons and activities students engage in to acquire skills and develop conceptual understandings. Throughout this book, multiple options are presented for differentiating lessons and activities.

One of the most effective ways to differentiate the learning process is through the use of flexible grouping. The practice of grouping has a long and sometimes stormy presence in education. When used poorly, such as using long-term stable or tracked groups based on students' abilities, grouping has been shown to have a negative effect on students. However, small-group instruction when used wisely—such as grouping students by

readiness to learn a new set of strategies, by interest for deeper learning, or by learning preference to increase motivation—can have a positive academic and affective outcome for students.<sup>1</sup> *Keep in mind:* Grouping alone does not improve achievement. It is the differentiation of curriculum and instruction within the groups that improves achievement.

## BENEFITS OF GROUP WORK

Grouping helps build these 21st Century Skills:

- cooperation
- collaboration
- communication
- risk-taking
- flexibility
- motivation
- engagement

## 10 TIPS FOR PRODUCTIVE GROUP WORK

Ensure that:

1. Students know the reasons for and benefits of group work.
2. All group members are clear about the rules, procedures, and norms.
3. Group type matches task outcome.
4. Group size fits the function of the task (a suggested size is three to five students).
5. Group members receive feedback about their performance.
6. Group membership is flexible when the group is functioning below expectations (you have the right and duty to shift membership to ensure productivity).
7. All members feel part of the group and have duties to fulfill.
8. Group membership is balanced to bring out the best in each member.
9. Group leadership is selected democratically by individuals.
10. Students practice efficient movement in and out of the group.

1. Ward, B. A. "Instructional Grouping in the Classroom." Washington, DC: Office of Educational Research and Improvement (OERI), U.S. Department of Education, November 1987; Hattie, J. *Visible Learning*. New York: Routledge, 2009.

## WAYS TO FORM GROUPS

- pretests/assessments/tests
- sign-ups
- survey/inventory
- peer-selection
- social webs
- self-selection/self-identify
- teacher selection

## SAMPLE GROUP TYPES

### *Interest-Based*

Students are arranged according to their interests. This can be changed by unit or by periods of time. The benefit of this type of grouping is that students focus attention on developing their talents and interests and connect new learning to prior knowledge. Interest-based grouping can also be an opportunity to introduce more complex, enriched topics into the content.

### *Readiness-Based*

Following an achievement assessment, students with similar skill levels are grouped together to achieve a higher level of skill development. Materials must be tailored to the students' skill level with the goal of moving students to the next level. The benefit of this type of grouping is that it can offer advanced learners the option to work more independently and it can provide more teacher involvement for students with greater instructional need.

### *Learning Preference-Based*

Students are grouped by likeness in learning preferences to complete a task. When completing a product, it may be beneficial to pair students with different preferences and each partner assumes a critical role (appropriate to his or her preference) in the completion of the product. For example, students who prefer creative modes of learning develop the product idea, students who prefer practical modes of learning ensure the product's usefulness and appeal, and students with analytical learning preferences keep the project on time and within budget.

### *Jigsaw*

Each student or group of students receives a different part of the content and is responsible for learning the material. Then, students from different

content groups are grouped together to share their information and teach the other members about the material.

### *Literature Circles*

Small groups of students receive different texts with the same/similar theme or topic. Students spend part of the time within like groups to discuss questions and the other part of the time in unlike groups (similar to jigsaw groups) to discuss the similarities and differences among the various texts. The benefits of this grouping type are that it exposes students to various pieces of literature, demonstrates how authors use literary elements to convey meaning, and illustrates the different ways readers interpret literature.

### *Row/Column Grouping (by rank order)*

Based on achievement assessment, students are ordered by rank using the following format. Students can then be grouped by column (achievement-based groups) or by row (heterogeneous groups). The benefit of column grouping is that there is a span of ability with a greater chance of students learning through role modeling. Keep in mind, however, that the greater the ability difference, the less likely students will role model.

Heterogeneous group →			
Achievement-based group ↓	1	11	21
	2	12	22
	3	13	23
	4	14	24
	5	15	25
	6	16	26
	7	17	27
	8	18	28
	9	19	29
	10	20	30

### *Friendship/Colleague-Based*

Grouping students based on their social connections can be an effective tool for developing comradery and inclusion. The critical element of friendship/colleague grouping is productivity. If the group becomes dysfunctional, you have the right and duty to change group membership.

### *Clock/Map Partners*

Using a clock face or map, students select partners for particular times or locations. For example, a

student might choose: Sarah = 3 o'clock, Tom = 6 o'clock, Marilyn = 9 o'clock, and Derek = 12 o'clock; or Sarah = USA, Tom = Indonesia, Marilyn = France, and Derek = Ghana. When the teacher says, "Pair with your 3 o'clock (or USA) partners," students know with whom to pair. The benefit of this type of grouping is that partnerships are prearranged, which can make transitioning from a large group to small groups more efficient. (*Note:* The clock times are not meant to correlate with actual times of the day when grouping occurs, they are merely a group-naming device.)

### ***Cooperative Groups***

In cooperative groups, each member performs a specific role, such as leader, timekeeper, or note-taker. The benefit of this type of grouping is that it teaches students how to work together and to understand that each member adds value to and helps complete the task.

### ***Study Buddies***

Study buddies are prearranged partners who can assist one another in learning, completion of homework, or completion of a task during or after class time. Study buddies can meet virtually or in person. The benefit of this grouping method is that each student is assured a partner in learning. Study buddies can be chosen by the students or arranged by the teacher based on similar or complementary personalities, needs, or other characteristics.

### ***Barometer Groups***

A barometer group is a randomly selected small group of students that the teacher calls upon to gather data (formative assessment) to find out how well instruction is working, evaluate the classroom environment, or offer advice for adjustments to content, process, product, and environment.

### ***Random Groups***

Random grouping can be used when all learners are confident in the material or the learning. Students are randomly placed into groups to complete a task. The benefit of this type of grouping is that it exposes students to diverse ways of thinking and learning and can build a greater sense of community in the classroom.

## **Differentiate Product: The Way Students Demonstrate Their Learning**

All students should be assessed on the same standards and tested in the same way on local, state, and national tests (most likely in a paper-and-pencil or online format), however, these forms of assessments may not always represent what the student has learned. Students can represent the product of their learning in many ways: what they know, are able to do, and understand. Some students enjoy making presentations while others may want to write about their learning. This is why product differentiation is a useful tool in the learning process. Chapter 4 provides several ideas for how to use assessment to motivate and engage students, and a model for assessment that can build learning autonomy is shared in Chapter 6.

## **How Can Learning Be Differentiated?**

### **Differentiate by Readiness: Prepare for the Now**

Readiness is not the same as ability. In some cases, you may take natural ability into account when designing lessons or activities, but mostly you are teaching to a student's skill development, which has to do with his or her preparation for the learning (or readiness). Some students come to school prepared with a great deal of skill development and background knowledge, while others have had limited experiences and will need more options and supports throughout the learning. Using readiness as a form of differentiation ensures that all students encounter challenge through respectful tasks and build toward achieving or exceeding standards.

### **Differentiate by Interest: Engage Through Choices**

Every child has an interest in something; finding out what students are interested in can attach them to the learning. Additionally, getting students interested in the learning can have a significant effect on their desire to achieve academic goals. Interest is considered to be the highest form of engagement in learning—if you can tap into a child's interest, she or he will pay attention to the learning longer. Additionally, consider ways to

pique students' interest in the lessons and topics. More ideas on discovering and piquing student interest can be found in Chapter 4.

## Differentiate by Learning Preference: Respect Different Ways to Learn

Each of us learns in different ways. Some people enjoy reading about new topics, while others would rather have someone tell them about it. Some students enjoy learning in a group while others prefer to learn independently. And some students prefer creative learning activities, while others perform better on practical tasks. Considering how a student likes to learn and perform can be an effective way to engage and motivate students. Chapter 4 includes ideas for building lessons and activities based on the various ways kids prefer to learn.

## Why Differentiate at All?

As stated previously, our classrooms are far more diverse and full of more distractions than any other time in history. We also have significant neurological evidence that supports the varied ways people prefer to learn. If we approach learning from only one direction, we most likely are not going to address the learning needs of the majority of our students. Planning for the differences in your classroom by offering options, choices, varied structures, and different ways of doing and showing work can significantly increase student motivation and achievement.

However, you won't be differentiating everything all the time. At times during instruction you will provide information to the whole class in one way, such as during a presentation or demonstration. Or, sometimes all students might need to work on the same task to prepare themselves for standards assessments or state testing. These tasks won't be differentiated. If, after an assessment, you find some students need more help or scaffolding, then differentiation becomes a factor.

When deciding what and how to differentiate, you need to have a clear *why*, or reason, for the actions of differentiation. Those reasons will come from your assessment data. Whether using pre-assessments, formative assessments, or summative exams, this data should inform you about variations in instruction or differing tasks. Always be specific

about why you are differentiating to make your labors of creating differentiated learning successful. Throughout the remaining parts of this book you will find valuable assessment ideas to assist you in defining the “why” of defensible differentiation.

## Dispelling the Myths of Differentiated Instruction

Often due to a lack of the basic information just provided, many teachers fear differentiated instruction. The numerous myths that surround the idea can sometimes stifle a teacher's willingness to begin the process of differentiating. Following is a collection of some of those myths and how they might be addressed to encourage teachers to move forward.

**Myth #1:** Differentiation is another word for individualization.

► **Reality:** Differentiation is *not* synonymous with individualization. All teachers individualize to some extent. When a teacher meets one-on-one with a student, individually answers questions, or modifies instruction based on an individual need, this is both individualization as well as differentiation. Individualization gained a bad reputation during the 1970s when teachers were expected to write individual lessons for students. This is not differentiation. Differentiation aims to meet individual needs through a quality curriculum and effective and efficient instructional practices that target groups of students based on learning readiness, individual interests, and preferred ways of learning—not through creating 30 or more separate lesson plans for every unit.

**Myth #2:** In a differentiated classroom you will see all the kids doing something different.

► **Reality:** All students should be provided relevant, meaningful, and challenging learning opportunities. Every lesson and activity should consider the individual students within the class, but not every child will be doing something different. There will be times when small groups of students or individuals will be engaged in different projects or independent or self-directed studies, and other times when all or most students are engaged in the same activity. Teachers in a differentiated classroom take on the role of managing the learning process. Just like in any work setting, not every worker is doing the same thing, but a good manager is clear about

what each worker is doing and where each worker is in the process. So too in a differentiated classroom, the teacher, like a good manager, oversees and coordinates the learning process of each student, some in groups and some individually.

**Myth #3:** Differentiation will change everything and solve all of our teaching problems.

► **Reality:** Differentiation will not solve all your problems; it is not the magic potion that will instantly raise student achievement. Being a teacher who is mindful of his or her students' academic, social, and emotional needs is what will help address learning gaps, increase motivation to learn, and ultimately lead to a rise in student achievement. Differentiating curriculum and instruction means providing intervention strategies and techniques so that every student is successful. Differentiation doesn't happen in isolation or without a team effort. Just like in the Multi-Tiered System of Supports (MTSS) or Response to Intervention (RTI) model, differentiated instruction requires teachers to use data to make decisions about learning, employ effective practices, and reflect on the outcomes of its implementation. This is what differentiation can do to ensure all students meet or exceed expectations.

**Myth #4:** In a differentiated classroom the teacher does not teach.

► **Reality:** In a differentiated classroom the teacher is the key to student achievement. However, the role of teacher changes from the “sage on the stage” to the “guide on the side.” There will be times when teachers may need to directly instruct, as well as times when students direct their own learning. Chapter 6 presents a teaching and learning continuum that supports students in gaining more autonomy in their learning. Though differentiation is nothing new, teachers must now be proactive about planning instruction to optimize student learning. They have thorough knowledge about what they want their students to learn; research effective practices to deliver instruction; implement quality strategies before, during, and after instruction; continually monitor student learning; and reflect on how well students have mastered material before moving on to the next topic.

**Myth #5:** You can't differentiate when you are trying to prepare for high-stakes testing.

► **Reality:** “Evidence clearly suggests that for most students, mastery and understanding come through, not after, meaningful interaction with ideas.”<sup>2</sup> The first important objective of differentiation is for students to understand the content deeply. When students understand the content, they are *more* prepared for standardized tests rather than less, and their knowledge is not isolated to discrete bits of information applied in unreal situations. Students learn more deeply when allowed to connect information to previous experiences and knowledge, apply learned material in authentic situations, and exercise skills in problem solving, creative thinking, and critical reasoning. The second important objective of a differentiated classroom is to prepare students for all kinds of content delivery, including those that are undifferentiated (such as standardized tests). All assessments, including standardized tests, are tools that direct the plans for instruction as well as offer feedback to the learner. Teachers who differentiate use quality assessment strategies throughout the learning process including those that model standardized tests.

**Myth #6:** Differentiation is mainly for gifted students.

► **Reality:** Differentiation is for all students. A differentiated classroom is centered on students' readiness, interests, and learning preferences—not on ability alone. Some students will require more complex and in-depth material, while other students will require more scaffolding and foundation construction to support their learning experiences. When differentiating based on your students' abilities or achievement, it is critical to keep in mind that your gifted and advanced students do not get “more” work, they get “more challenging” work. Tasks must be respectful not only of students' abilities but also of their time. In differentiated classrooms, teachers apply principles of gifted education to all students.

**Myth #7:** Differentiation is just a way to group or track students.

► **Reality:** Tracking is the practice of permanently assigning students to a particular level of instruction with very little differentiation included. In a differentiated classroom, teachers routinely employ the strategy of flexible grouping practices, which include grouping students by interest,

2. Tomlinson, C. A., and J. McTighe. *Integrating Differentiated Instruction & Understanding by Design: Connecting Content and Kids*. Alexandria, VA: ASCD, 2006: 8.

ability, learning preference, academic strength/limitations, or gender. Teachers plan instruction so students move in and out of groups to interact with a variety of peers throughout the learning process. Sometimes students will work with like-ability students and sometimes with students who have different skills and/or abilities. In other cases, some students learn best while working with others and some learn best by working alone. This strategy takes into account students' interpersonal and intrapersonal strengths. The type of grouping depends on what outcome you expect from the activity.

**Myth #8:** Grading isn't fair in a differentiated classroom.

► **Reality:** Not all kids learn at the same rate. Therefore, grading in a differentiated classroom takes on an entirely different meaning. When teachers know *what* they want students to know, be able to do, and understand and *how* they want students to represent that knowledge, and they have developed quality grading criteria, then grading becomes about identifying students' acquisition of knowledge and mastery.

Grading in a differentiated classroom must be equitable and represented through a "photo album" of student growth. Three types of assessment are used in a differentiated classroom to ensure students are learning the material. Preassessments are used to find out what students know or don't know, are able or not able to do, and understand or don't understand before instruction begins. Formative assessments are used as checkpoints for how well the students are accumulating the information taught and provide the teacher with feedback about teaching strategies and pace. Summative assessments are used to mark students' achievement of goals set forth in a unit of study. You will employ all three of these assessment strategies to create a "grade" of how well the student gathered information and mastered content. Remember, it is *not* about the grade, but rather about what the student learned.

**Myth #9:** With everything teachers have to do, they can't be expected to differentiate, too.

► **Reality:** Differentiation of curriculum and instruction should not be separate from all other school initiatives. Differentiation is Multi-Tiered System of Supports (MTSS)/Response to Intervention (RTI); structured instruction,

Sheltered Instruction Observation Protocol (SIOP); Positive Behavioral Interventions and Supports (PBIS); Advancement Via Individual Determination (AVID); guided reading; integrated math; college and career readiness; and the list goes on. All the initiatives that schools employ to provide safe and quality learning environments and to improve student achievement are methods of differentiation. Simply put, whatever it takes to ensure that every child is ready for the next step is differentiation. Differentiation is embedded within the educational systems; it is not a separate initiative.

**Myth #10:** Differentiation takes too much time that I don't have.

► **Reality:** Differentiation *will* require a considerable time investment initially, but in the long run it will actually save you time as a teacher and increase the overall efficiency of your classroom. Begin by creating your own mindset of doing whatever it takes to get students to be proficient in what you know to be essential about your content. Start small, work on one strategy at a time, develop expertise, and build a knowledge base. Every hour you invest now in planning and implementing differentiation will save you an hour in the future and will enable your students to succeed and progress more quickly.

Differentiating curriculum and instruction is *not* easy. It takes many hours for teachers to define what is essential for students to know, be able to do, and understand; figure out how best to provide engaging experiences for students to acquire this information; present information through multiple activities that assist students in applying the learning; create effective assessment strategies that can appraise where students are at in the learning process; and finally, offer authentic modes of production where students can demonstrate their knowledge. Differentiation is a teaching process that takes time and patience . . . but it is entirely doable.

The 10 Elements of a Differentiated Classroom on page 21 is for you to refer to as you read this book. Each of these elements will be explored in more detail throughout. Also included is the 10 Elements of a Differentiated Classroom Survey on pages 22–23. Use this survey to assess where you are in your knowledge and application of differentiation. It can also be used by a

school to measure the entire staff's awareness of differentiation and set an agenda for professional development. As you take the survey, be as honest as you can in your responses. The more accurately you identify your understanding of differentiation, the more likely you are to move yourself and your school to greater levels of student achievement.

## Visible Differentiation: Supporting Teachers Through Observation Practices

Differentiation is a complex process that requires practice, patience, and support. School leaders and coaches can help develop teachers' abilities to effectively differentiate curriculum and instruction but generally need guidance to do so. Many school districts and educational groups have found success using Charlotte Danielson's Framework for Teaching Evaluation Instrument<sup>3</sup> or Robert Marzano's Teacher Evaluation Model.<sup>4</sup> Based on empirical studies and theoretical research, Danielson and Marzano created comprehensive frameworks that identify aspects of effective teaching for evaluation.

That said, evaluating a developing practice may not be the most effective way to assist teachers with differentiation. Direct observation of a teacher in action may be better. By using the Danielson and Marzano models, I have identified four critical dimensions of a differentiated classroom that can be observed. Teacher leaders, instructional coaches, administrators, and others can use these ideas to help a teacher plan and prepare for differentiation, arrange the classroom environment, use effective management strategies, implement instructional practices and assessments that promote differentiation, and increase professional development focused on differentiation.

The indicators in each domain are suggested techniques or strategies that coaches can see in action in a differentiated classroom. Observing these indicators can help teachers reach greater success. I recommend that coaches use the Classroom Indicators of Differentiated Instruction form on pages 24–27 for three to four of the following observations:

**Observation #1: Coach meets with the teacher prior to instruction.** This meeting is intended to initiate a discussion about the teacher's knowledge of differentiation and how the teacher is considering the four key areas of differentiation: classroom *environment*, lesson *content*, learning activities (*process*), and ways for students to demonstrate learning (*product*). As the teacher discusses ideas, the coach listens for particulars cited in the left-hand column of the Classroom Indicators form. After the meeting, the coach reviews his or her notes to decide where the teacher is in developing a differentiation practice and shares with the teacher areas in which she or he is doing well and areas that may need developing.

**Observation #2: Coach views teacher and students in classroom environment.** This observation is intended to get a feel for the environment and the general strategies a teacher uses to manage the classroom. During this classroom visit, a coach watches for things such as how well the classroom is organized, the flow in the room, how students are developing self-regulation and independence, and so forth. The coach keeps an eye on the students and the classroom in general to assess how joyful the environment is. After the observation, the coach reviews and shares what he or she observed and suggests what the teacher might focus on to make the classroom environment more effective.

**Observation #3: Coach reviews teacher's classroom instruction and assessment.** After the coach has met with the teacher to share ideas for planning and environment, he or she directly observes the teacher's instructional practices of differentiation and assessment. While not all of the items listed in the left column of the Classroom Indicators form can be seen in one observation, the coach should be able to see or have represented items such as: clear objectives posted; "with-it-ness"; student uses of technology when appropriate; and so forth. The coach records observations and shares them with the teacher, asks if unseen items may be represented in other lessons or at other times, and makes recommendations for adjustments and additions.

3. Danielson, C. *The Framework for Teaching Evaluation Instrument, 2013 Edition*. Princeton, NJ: The Danielson Group, 2014.  
4. Marzano, R. J. "The Marzano Teacher Evaluation Model." Englewood, CO: Marzano Research Laboratory (August 2011).

**Observation #4 (optional): Coach and teacher discuss further professional development.** After the coach has had three meetings with the teacher and has a better feel for where the teacher is at in the development of differentiation, he or she is ready to make suggestions for further professional development. The coach takes the entirety of the Classroom Indicators observation form into account when making suggestions for the teacher's development. The bullets in the left column of the form provide broad areas for development.

Differentiated instruction involves a teacher's proactive planning of instruction and curriculum meant to engage learners where they are in readiness levels, interests, and learning preferences.

### Hallmarks of a Differentiated Classroom

- Clear and focused learning goals
- Alignment of learning goals, assessment, and instruction to standards
- Flexible grouping of students
- Flexible use of time, space, and materials
- Shared responsibility for learning
- Emphasis on individual growth
- Respectful work for all
- Focus on upward achievement for all
- High expectations for all
- Active partnerships with parents, other school resources, and community members
- Proactive planning to meet the needs of individual students

## Technology Use in the Differentiated Classroom

As a teacher today, you likely employ many different forms of technology in your classroom to assist you in differentiating curriculum and instruction, ranging from tablets to electronic student response systems to one-to-one computers. These devices can be of great assistance in customizing lesson plans, tasks, activities, and assessments for

students of diverse abilities and preferences. This book does not directly address technology use or computer literacy in today's classrooms; that topic is for another volume altogether (or, rather, multiple volumes). And yet the use of technology pervades nearly all of this book's contents. The tools and skills being used by you and your students to achieve the goals presented here are becoming more and more computer-based and technology-specific each year. Our goal for today's classrooms should go beyond the technology and skills of a global economy. We need to prepare our students for technologies that haven't been invented yet, to be employed in careers that don't exist yet, and to be able to deal with the exponential growth of knowledge and information. Our students must be ready to take on challenges never before encountered and be able to solve increasingly complex world problems. Technology is but one tool in our students' toolbox for building a better world.

Depending on your viewpoint, technology has made our lives either more efficient or more difficult. Technology has definitely improved our society and our schools, but in some cases, it may have caused our students to rely too much on it that they have become intellectually lazy or unimaginative. Other possible pros and cons of technology are highlighted in **Figure 1.1** on page 20.

Chances are, you've heard a student say, "If the calculator can figure it out for me, why should I learn how to do the equation?" or "Why do I have to study this information if all I have to do is an Internet search to find the answers?" This line of thought, while at times showing a student's resourcefulness, can also lead to chronic intellectual laziness. As teachers, we have a duty to prevent and cure this laziness through persistently and routinely infusing differentiation practices, rigorous tasks, and thinking skills into our daily classroom routines, lessons, and units, as well as into our own practices.

Above all, we must keep in mind that technology is only as effective as the person who has created it and the person who is using it. This book's focus is on the learning habits and the thoughts of those behind, and the students seated in front of, the computers. Our responsibility as teachers is to facilitate and coach our students to use thinking as a tool to enhance the efficiency of technology.