Rationale

You already know how to differentiate a lesson. You’ve been employing a variety of developmentally responsive strategies throughout the school year. Here are some examples from your current practices:

After your lesson about Renaissance art, a student calls you over to her desk, tells you she’s confused, and asks you to explain the main points again. You do so, providing extra examples that she can reference while she completes the chapter summary you previously assigned. With the new information, she’s able to work independently.

A student is struggling to draw a perfect circle for part of another project. You just happen to be carrying a roll of masking tape in your hand, which you now tap against the student’s desk, pondering aloud, “Hmm. I wonder what you could use as a tracing guide to create a circle…. There has to be something here that you can use.” The student grins, grabs the tape, turns it flat against his paper, and traces the inside contour of the roll. “Thanks,” he says as he hands the roll back to you.

A student has a learning disability in reading. You record one of the history textbook’s chapters on a compact disc or audiocassette so he can listen to your clarifying vocal inflections while he reads the text silently. This practice increases his comprehension of Winston Churchill’s life, which enables him to fully participate in class discussions about the world leader.

A student finds wide-ruled paper too cumbersome to use. She stretches her letters to fill the lines and, consequently, her handwriting sprawls illegibly. You suggest that she use college-ruled paper, which has narrower
spaces between the lines. She makes the switch, and her handwriting improves.

A student has intense test anxiety, particularly with written exams. While testing students’ knowledge of safety rules in your Technology and Innovations course, you call the worried student over to a quiet area at the back of the classroom and ask the test questions orally. Occasionally, you let the student draw something on paper to demonstrate his understanding. He takes the test this way, and you get an accurate assessment of his skills.

In science class, a student is struggling to identify a leaf while using a reference book. She easily classifies her specimen as a leaf and not a clump of needles, then moves to the section of the book discussing deciduous trees. Here the book asks her to consider whether the leaf’s veins are parallel or pinnate (some vein patterns run parallel, but those that branch out are called pinnate). The student doesn’t fully understand the difference, so she skips that part of the book and quickly turns the pages, searching for a drawing that looks similar to her specimen. After a few minutes, she selects an illustration. It’s not an exact match, but she records the name under her drawing of her leaf in her lab notebook and moves to the next specimen. You stop her and ask her to reexamine the veins in the drawing and compare them with the veins of her specimen.

“Are they the same?” you ask.
“No,” she replies.
“Then you have not found the correct name for the leaf. How do the veins run in your specimen?” you ask, tracing the parallel veins of the leaf with your finger.
“I don’t know, straight?” she says.
You nod. “Correct. They are not crooked, and they’re not perpendicular. They’re . . .” you lead her.
“Parallel?”
You nod again. “So this is parallel. What’s the other type of veinage called?”
The student scans through her leaf terminology list. “Pinnate?”
“Yes. What does it look like?”
“Like little v’s or branches,” she says.
“Good. Remember the pinnate veinage for later specimens. But for this one, focus only on leaves with parallel veinage. Each characteristic helps you narrow the focus to the final, correct leaf.”
You make a mental note to give this student more time to investigate taxonomies. Maybe some extra practice categorizing objects would be helpful for her, you think, then record the observation on a pad of sticky notes you carry in your pocket for observations like this. You walk over and place the note with the information on it into your lesson-plan book so you’ll see it later as you prepare for tomorrow’s class.

Sound strategies, flexible methods, and good results. The genie disappears into his lamp when you realize that you won’t need his assistance
after all: There’s nothing magical or overly complex about differentiated instruction.

It’s that easy. We’re finished explaining here.

Well, not entirely. There might be a few more ideas to add to your “bag of tricks,” but differentiation really is that straightforward. When we differentiate, we do whatever it takes to help students learn by providing individual accommodations and making adjustments to our general lesson plans. There are no hidden secrets saved only for the most honored of practitioners. Adjusting lessons, homework assignments, classroom procedures, and assessments to meet students where they are—struggling, advanced, or in between—and making sure they’ve mastered their subjects is simply good teaching. And it is both possible and powerful for every educator.

Differentiation is one of the most popular terms found in school improvement plans these days. It’s a very effective focus for schools but some educators claim to be providing differentiated instruction, assessment, and curriculum when reality reveals otherwise. Many educators write long, complicated professional development plans, summarizing how they will learn to differentiate over the next few years. These expressed intentions often get stuffed into classroom bookshelves and are never reopened because of teachers’ over-extended schedules and administrators’ shifting priorities. Other educators think differentiation is a passing fad and don’t bother to interrupt their normal classroom routines to provide it.

I invite readers to look at differentiation through a more accurate and historical lens. If you read descriptions of teaching in ancient Greece and Egypt, for example, you’ll find repeated evidence of differentiation. It’s among the most traditional forms of instruction. In fact, not differentiating is the short-lived fad. A one-size-fits-all education won’t work any longer, if it ever did. Consider the following:

- Students are more diverse than ever—culturally, emotionally, economically, physically, and intellectually.
- The public wants educators to be held accountable for students’ success, no matter their circumstances.
- Our students must be prepared to compete in the global economy, which requires an increasing level of knowledge and skills.
- Mental dexterity is the new currency. A country’s most important exports include its citizens’ ability to innovate and solve problems. Today’s students must learn how to continually manage, critique, and increase their knowledge. To cultivate these capacities in all students, including those who are ready to move beyond the regular education standards, we will need to expand and adapt our own practices as well.
We have accumulated a critical mass of new and compelling research about how the human brain learns and can use this information to transform our instruction and assessment methods. Ignoring these data is a form of educational malpractice. Meeting the needs of diverse learners isn’t whimsical. It’s imperative.

Effective differentiation is what most of us have been striving to accomplish since our first days in the classroom. The direct, observable results of differentiation provide the meaningful experiences that motivate us to show up every day.

Yet, in spite of the greater resources and research at our disposal, many teachers still struggle with the practicalities of adjusting their lessons for students who struggle, learn differently, or need more challenge. When we try to differentiate for 150 to 250 students a day over five or six class periods, the task can seem staggering. We feel like we are drowning in a sea of pressure from increasing numbers of stakeholders, new school district directives, and overwhelming student loads. It’s no wonder we choose not to extend ourselves completely every day; otherwise our energy would be depleted early in the school year. During these times, we may use teaching practices just because they’re habitual or easy. We don’t really know whether these strategies work, particularly with diverse students.

I’ve had this mind-set from time to time in my own career. As uncomfortable as it is to admit this, sometimes I retreated into survival mode and just focused on getting through the day. I console myself with the thought that this retrenchment only occurred occasionally. I recommend that you give yourself similar dispensation for these incidental lapses.

After thoroughly exploring differentiated approaches, however, I am rejuvenated, and I think you will be as well. Differentiated instruction provides both principles and techniques for excellent teaching. It’s an effective sword against complacency. We can raise the bar, aiming for sound pedagogy—differentiation—at least 90 percent of the time. We may not be able to eliminate all the pressures, but we can search for ways to teach smarter, not harder. And through our searching, we find meaning and the energy to continue. This book provides an informed response to that quest.

**Differentiated Instruction in the Classroom**

Let’s examine some applications of differentiated instruction to see the concept in context. Read the following description of a math lesson. Identify where the teacher uses differentiation to meet her students’ needs.

* * *
Jane Greateducator is introducing a unit about adding and subtracting integers. She first draws a thermometer vertically on the chalkboard and labels the degree markings from –20 to +20. She places arrows at either end of the line to indicate that the numbers would continue in each direction. She gives several students who learn more when working with manipulatives actual thermometers, borrowed from the science classroom.

On the drawn thermometer, she places a dot on the mark for +15 degrees and then says to the class, “If the temperature was plus 15, and it dropped eighteen degrees during the night, what temperature would it be?” She asks the students with the real thermometers to place their fingernails at the identified points along the thermometer, reminding them that they may need to rotate the instrument along its horizontal axis in order to read the markings.

Most of the students follow the markings with their eyes until they reach the eighteenth one. Some students sit and wait for others to complete the task. One student raises his hand, and the teacher calls his name. The student says, “Negative 3 degrees?”

“Correct,” says Ms. Greateducator. “Now show us how you figured it out.”

She hands the student a piece of chalk. He takes the chalk and walks to the board, placing the chalk’s point at the +15 degree mark on the drawn thermometer. He moves the chalk down the thermometer, counting off the degree marks as he goes. When he gets to the eighteenth mark down, he stops and circles it.

“Nicely done,” Ms. Greateducator says, adding, “And what if the temperature was minus 7 degrees and it rose ten degrees? What would the new temperature be?”

The student puts the point of the chalk at the –7 degree mark, then counts the marks as he moves up the thermometer. The student circles the new temperature reading and declares, “Plus 3 degrees.”

“Correct again,” says Ms. Greateducator. “Thank you. You may take your seat.” She then asks the class to figure out the new temperature readings and fill in the chart that she previously provided to them.

<table>
<thead>
<tr>
<th>Original Temperature</th>
<th>Adjustment</th>
<th>New Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>+15</td>
<td>Drops 20 degrees</td>
<td></td>
</tr>
<tr>
<td>–17</td>
<td>Rises 6 degrees</td>
<td></td>
</tr>
<tr>
<td>–20</td>
<td>Rises 21 degrees</td>
<td></td>
</tr>
<tr>
<td>+10</td>
<td>Drops 9 degrees</td>
<td></td>
</tr>
</tbody>
</table>

Ms. Greateducator provides time for students to determine the new temperatures accurately. Some students ask their peers with the real thermometers if they can borrow the instruments. As students work independently, the teacher moves around the room and asks clarifying questions,
occasionally providing supportive comments when students correctly identify the new temperatures.

Next, Ms. Greateducator asks her students to create mathematical equations using the data from the chart. She notices that one student has already raced ahead, completing the assignment correctly with all four scenarios from the chart. She smiles at him and continues explaining the principles to the rest of the class, using the first two sample scenarios as models.

“The temperature was plus 15 degrees and it dropped eighteen degrees, so the new temperature is negative 3 degrees.” As she says this, she writes, $+15 - 18 = -3$.

She continues: “The temperature was negative 7 degrees, and it rose ten degrees, so the new temperature is plus 3 degrees.” As she says this, she writes, $-7 + 10 = +3$.

Now she asks students to follow her example and write the equations for the four samples in the chart. She gives them two minutes to finish the assignment. The student who completed the task on his own is no longer paying attention, and Ms. Greateducator frowns at him. He ignores her and continues molding two paper clips into a tension-release, launching mechanism that leaps three feet into the air.

* * *

Now, let’s step back and examine Ms. Greateducator’s lesson. A quick look would establish several points of differentiation:

- The teacher knows that some of her students are still at a concrete level of thinking. They have to touch things to make sense of them. They are not yet comfortable with abstract reasoning. So, she places real thermometers in their hands in addition to the symbolic representation drawn on the chalkboard.

- She also moves from the concrete task of following marks on a thermometer to the symbolic portrayal of the mathematical concept through the equations and the vertical number line.

- She prevents potential stumbling blocks by advising students to hold the thermometers so they can read the markings clearly.

- The teacher knows that just telling students how to add and subtract integers will not ensure that they learn the mathematical concepts. They need to visualize the process. Her “hook” for this is the thermometer. Later in the lesson, she’ll turn the thermometer sideways to introduce an integer number line (negative numbers on the left, positive numbers on the right), and repeat the practice tasks of starting with one number and moving a specific number of points in a negative or positive direction.
• She moves around the room and answers individual questions, guiding students as they practice.

• She provides structure in the form of the chart for students to complete.

• She gives students ample time to absorb new information.

• She asks the volunteer student to explain his thinking so the class has a model to use or adapt.

However, just like all of us, Ms. Greateducator missed some opportunities to differentiate. Here are some additional ways she might have approached the lesson.

• She could have preassessed students to find out what they already knew about integers. If she had, she would have noticed that at least one student already had mastered the essential skills and needed more complex assignments to extend his knowledge.

• When she did find out that one student already knew how to manipulate integers, Ms. Greateducator just smiled at him but did nothing to engage him beyond the initial activity. She hadn’t prepared enrichment activities for students who learn quickly.

• Some students sat at their desks and didn’t complete the tasks. Ms. Greateducator could have anticipated this by developing an alternate activity or using constructive strategy to reengage them.

As you read this scene, you probably noticed that much of this analysis referred to effective teaching techniques, not esoteric or specialized instruction. That’s the point. Although we may plan the majority of the lesson, we also can use differentiation informally, whenever the need arises. We could look at any description of any lesson by any teacher and find several examples of differentiation as well as several missed opportunities. Experience will increase our options and resolve, but there will always be room for improvement. Being flexible and attentive is vital to differentiation.

**Defining Differentiated Instruction**

Differentiation is foremost a professional and responsive mind-set. The following reflective questions seem to establish that mind-set most effectively:
• Are we willing to teach in whatever way is necessary for students to learn best, even if the approach doesn’t match our own preferences?

• Do we have the courage to do what works, not just what’s easiest?

• Do we actively seek to understand our students’ knowledge, skills, and talents so we can provide an appropriate match for their learning needs? And once we discover their individual strengths and weaknesses, do we actually adapt our instruction to respond to their needs?

• Do we continually build a large and diverse repertoire of instructional strategies so we have more than one way to teach?

• Do we organize our classrooms for students’ learning or for our teaching?

• Do we keep up-to-date on the latest research about learning, students’ developmental growth, and our content specialty areas?

• Do we ceaselessly self-analyze and reflect on our lessons—including our assessments—searching for ways to improve?

• Are we open to critique?

• Do we push students to become their own education advocates and give them the tools to do so?

Dr. John Lounsbury (2006), a pioneer of the middle school movement, reminds us that some classrooms are designed to meet the teacher’s needs more than the students’ needs.

One example of this would be the location of the teacher’s desk. If it’s front and center in the classroom, based on the premise that the teacher can keep an eye on all students from a central location, the impact may be twofold: (1) students will get the unspoken yet clear message that the teacher and his or her work are more important than their own, and (2) the teacher will be less inclined to leave his or her command post and move to students’ work spaces. Instead, with a quick wave of the teacher’s hand, students are told to come to the teacher’s desk for assistance.

Another example is when teachers use themselves as the pivot point for class discussions; each response from a student must bounce back to the teacher before anyone else can comment. Whoever responds to students is doing the majority of the learning, so teachers should get out of the way and encourage students to naturally and routinely respond directly to their classmates. Teachers who keep the discussion revolving around their own ideas are well-intentioned but misinformed gatekeepers who need to change their tactics from declarations of truth to questions that guide thinking, and that’s only if what is stated by students is somehow false.

Lounsbury’s caution is well taken: Do we organize our lessons around students’ learning the curriculum or around our dissemination of it? In other words, is our focus on what students are learning or on what we’re teaching? Successful teachers think and speak in terms of what students are learning, not what they are presenting.
• Do we regularly close the gap between knowing what to do and actually doing it?

Many teachers and schools have the knowledge and tools to accommodate English language learners (ELLs), improve the performance of underachieving students, provide appropriate challenges for advanced learners, and motivate reluctant learners, but they choose not to address all of their needs. The reasons for their inadequate responses include complacency, cynicism, fear, distrust, unclear outcomes, real or perceived increases in their workload, and the belief that their hands are tied and they can’t fight the system. Teachers who are committed to excellence for all actively seek to close the gap between knowing and doing. They find ways to renew themselves, beat an ineffective system, build trust, and stay healthy; they rarely coast. More importantly, they try something else if what they are currently doing isn’t working for students. They are motivated by sentiments similar to those expressed by paraplegic and rock band manager James Neil Hollingworth, AKA Ambrose Redmoon: “Courage is the not the absence of fear, but rather the judgement that something else is more important than that fear.” In their mind-set, then, these teachers regularly ask themselves what they consider so important that it eclipses their fears, and they take physical and mental steps to pursue those actions.

The two simple charges of differentiation are: (1) do whatever it takes to maximize students’ learning instead of relying on a one-size-fits-all, whole-class method of instruction and (2) prepare students to handle anything in their current and future lives that is not differentiated, i.e., to become their own learning advocates.

We often describe differentiation with the phrase, “doing what’s fair” for students, which refers to the process of designing developmentally appropriate instruction and assessments. When we differentiate, we finesse the learning for students while finessing students for their learning. We don’t just adapt our instructional techniques to meet their needs; we prepare students for the variety of learning and life situations they will encounter. So, while we may show students that they have a proclivity for visual-spatial thinking and suggest that they might want to record the lecture notes as a series of drawings and visual metaphors, we also teach them how to get better at expressing their thinking through the written word. This dexterity—adjusting both curriculum and students’ skills to make sure students learn successfully—is critical during students’ formal schooling.

In the world beyond school, we gravitate toward work and hobbies in which we excel; we self-differentiate. As a result, we don’t need as many differentiated support systems as we did in school. We graduate with a specific skill set that matches an employer’s needs. We agree to perform jobs that don’t require a steep learning curve, and we don’t have to be good at everything at once. If something comes up in the job that we don’t know
how to do, we draw upon our life experience and adult-level competencies. We can learn new skills, break tasks into smaller steps and formats we can handle, work collaboratively with colleagues who have skills that complement our own, or harness the resources and training necessary to do our jobs well. If these actions don’t help us succeed, we may seek other employment.

In schools, however, we require students to learn and be good at everything, regardless of their proclivities, readiness levels, cultural barriers, learning deficiencies, or learning styles. We insist that students know how to analyze poetry, paint a picture that reflects a particular style of art, write essays, solve calculus problems, balance chemical equations, debate civic issues, remember historical events, defend their opinions about sovereign governments, use multiple computer software programs, acquire vocabulary, keep up proper hygiene, speak publicly, maintain friendships, navigate adolescence, demonstrate positive morality, ask probing questions, remember multiple tasks, organize their school supplies, and turn in their work on time—and this is just on Monday.

Keep in mind that no two students are the same. Some excel in certain fields, some in others, and some seem to learn quickly or not at all. Unfortunately, our schools are set up to push them through the education paces at a single speed. Everyone at a specific grade level is expected to learn a particular set of skills, and everyone at another grade level is expected to learn another set. There is an assumption that we are working with the same raw resources, all in the same condition, all with the same needs, and all growing at the same rate. This thinking goes against everything we know about messy, organic human learning. To mitigate the harmful effects of this approach, we differentiate, giving every student a fighting chance to be not just competent but excellent, while finding meaning in learning as well.

Let me be clear: Differentiation is not about requiring less or more work from students of varying degrees of readiness. We don’t ask advanced students to do two book reports while struggling students do one. Instead, we change the nature of the work, not its quantity. Differentiation means we increase what students can achieve, and that takes focused work on everyone’s part.

It’s in the undifferentiated classes that students can coast along, rarely challenged, rationalizing that teachers don’t care or that struggling in school implies stupidity. In the undifferentiated classes, teachers present material, then test and document students’ deficiencies. In the differentiated classes, however, teachers take the time to know their students. And, armed with that information, they make learning so compelling that students have no choice but to become engaged. These teachers are keenly aware of how students need to grow, and they make adjustments to ensure that those gains occur.
This approach takes courage. For example, a student may understand a concept very well but not yet be a proficient writer. Do we make her demonstrate her understanding through the essay that we’ve assigned to the rest of the class? If so, that would test her ability to write an essay, not measure what she knows about the topic at hand. Will we follow our professional instincts and test this student differently than her classmates? Do we believe that we can hold her accountable for the same universal factors that we expect her classmates to learn, no matter the assessment format? And can we explain this approach clearly to other students, parents, colleagues, and administrators who question the fairness of it? If we want an accurate portrayal of a student’s mastery of a particular concept, the assessment format we use must enable us to determine that. This is differentiation.

Consider another scenario: A student still doesn’t understand what we’re teaching even after what we consider to be a very thorough lesson. Do we blame the student, or do we reexamine what we could do to clarify the concepts for the child? Do we reteach, provide more examples, extend the time in which he can learn, incorporate different technology, analyze the student’s specific challenges, approach the lesson from a different angle, provide a quick reference tool when studying sophisticated concepts, use a better metaphor, or do something else? If we teach so that students learn, we do whatever it takes to make this happen. This is differentiation.

For a gifted student, do we assume she’ll understand the lesson just because she’s been identified as academically advanced? Do we assume she’ll find something of value from our lessons aimed at the middle performers because she knows how to learn on her own? If so, then why do we make gifted students come to school—for socialization? Not good enough. They don’t all learn on their own. Gifted students need instruction that is dynamic, brave, and focused on their needs, just as struggling students do. This is differentiation.

What about a student who doesn’t understand the lesson by the time you’ve finished teaching it? Given a few more days or even a couple of weeks, he probably will. Some teachers might tell this student, “It’s too bad you didn’t learn it on that first Wednesday in November, the day of the test. Now, a week later, you can go back and try to learn it because it’s important to your education, but I won’t give you full credit.” Would you agree with this approach? I hope not. It does not reflect differentiation.

This is the major component of differentiation: the mind-set. Everything else is craft. We can’t get to the craft—the tips for management and orchestration of the differentiated lesson—unless our mind grasps this liberating emphasis. The lesson-plan ideas that follow will become very comfortable once you embrace the differentiation mind-set. If you are struggling with this principle, you may find it challenging to proceed, but
go ahead and give the lesson a try. The mind-set will come as you work with your students and experience their success. While reading the ideas I have presented, ask yourself the questions listed on pages 8–9. Consider whether these ideas validate what you already know and, if they do, whether or not you act upon these beliefs in the classroom. If these ideas are new to you, consider going along with the thinking until your experience catches up. Our students are counting on your resoundingly affirmative response.

How to Extend These Processes to Any Subject

There is no single, tried-and-true method of differentiating instruction and assessment for all students. We do whatever works. However, there are some commonly accepted practices that can help teachers design more effective and responsive lessons. These practices are presented in the pages ahead.

As you read, you may find that the subject matter or the grade levels represented differ from yours. Please don’t dismiss these examples as irrelevant to your work. The ideas still apply to you, the teacher who is learning to differentiate or the teacher who is refining his or her practices. Read the examples for the procedures, not the specific content of the lessons. If the examples happen to incorporate strategies you can actually use in your classroom, that’s wonderful! Feel free to adapt and improve them. If the examples fall outside your domain, pull out the general practices you find helpful as you design lessons pertinent to your teaching situation. The practices presented here are universally applicable, whether you teach fifth grade or twelfth grade, language arts, or calculus.

For example, at some point in the process of designing our lessons, we all have to identify what we’ll accept as evidence of students’ mastery of the topic. Do students have to memorize the information and pull it out of their heads with no help from us, or will they be allowed to choose the correct answer from a list, such as on a multiple-choice exam? Will they be allowed to demonstrate proficiency orally? How about artistically? Only in writing? Whether we’re teaching sixth graders how to solve for a variable, eighth graders about due process in a civics class, or eleventh graders the formulas for determining force and motion in physics, we still have to determine what is most important for them to know and how they can show us that they know it. So, whatever your specialty, there’s information here that you can use. Read for the universal procedures, practice with your particular lessons.
In the margins of several of the examples, you will find captions that point out practical and procedural tips. I included these to remind you about key ideas that you will want to carry forward and apply to your own lessons. We left the margins wide in this book so you could have space to mark text and write your thinking next to it.

The lessons and the responses to “What if?” scenarios are by no means comprehensive. They couldn’t be, given the variety of our students, the breadth of our curricula, and the potential of our imaginations. Consider them launching points for your own ideas; use them, add to them, or revise them any way you’d like. And be sure at some point to share your new strategies with colleagues. We’re all waiting for your insights.

So begin to explore the ideas, close the gap between knowing and doing, and improve the learning experiences of tomorrow’s amazing leaders—our students.
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