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Through Structured Teaching

A Framework for the Gradual Release of Responsibility

DOUGLAS FISHER • NANCY FREY

Better Learning

Through Structured Teaching



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Through Structured Teaching

A Framework for the Gradual Release of Responsibility

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Learning, or Not Learning, in School

Learning—the goal of schooling—is a complex process. But what *is* learning? Consider the following definitions and the implications each has for teaching:

- Learning is the process of acquiring knowledge or skill through study, experience, or teaching.
- Learning is experience that brings about a relatively permanent change in behavior.
- Learning is a change in neural function as a consequence of experience.
- Learning is the cognitive process of acquiring skill or knowledge.
- Learning is an increase in the amount of response rules and concepts in the memory of an intelligent system.

Which definition fits with your beliefs? Now ask yourself, how is it that *you* learn? Think of something that you do well. Take a minute to analyze this skill or behavior. How did you develop your prowess? How did you move from novice to expert? You probably

did not develop a high level of skill from simply being told how to complete a task. Instead, you likely had models, feedback, peer support, and lots of practice. Over time, you developed your expertise. You may have extended that expertise further by sharing it with others. The model that explains this type of learning process is called *the gradual release of responsibility instructional framework.*

The Gradual Release of Responsibility Instructional Framework

The gradual release of responsibility instructional framework purposefully shifts the cognitive load from teacher-as-model, to joint responsibility of teacher and learner, to independent practice and application by the learner (Pearson & Gallagher, 1983). It stipulates that the teacher moves from assuming "all the responsibility for performing a task . . . to a situation in which the students assume all of the responsibility" (Duke & Pearson, 2002, p. 211). This gradual release may occur over a day, a week, a month, or a year. Graves and Fitzgerald (2003) note that "effective instruction often follows a progression in which teachers gradually do less of the work and students gradually assume increased responsibility for their learning. It is through this process of gradually assuming more and more responsibility for their learning that students become competent, independent learners" (p. 98).

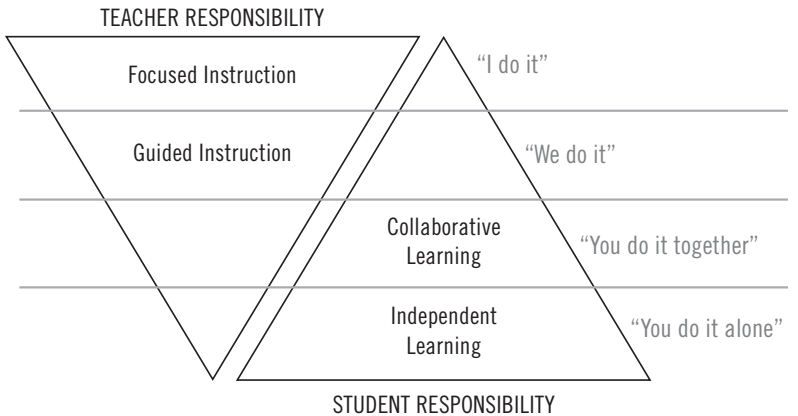
The gradual release of responsibility framework, originally developed for reading instruction, reflects the intersection of several theories, including

- Piaget's (1952) work on cognitive structures and schemata
- Vygotsky's (1962, 1978) work on zones of proximal development
- Bandura's (1965) work on attention, retention, reproduction, and motivation
- Wood, Bruner, and Ross's (1976) work on scaffolded instruction

Taken together, these theories suggest that learning occurs through interactions with others; when these interactions are intentional, specific learning occurs.

Unfortunately, most current efforts to implement the gradual release of responsibility framework limit these interactions to adult and child exchanges: *I do it; we do it together; you do it.* But this three-phase model omits a truly vital component: students learning through collaboration with their peers—the *you do it together* phase. Although the effectiveness of peer learning has been demonstrated with English language learners (Zhang & Dougherty Stahl, 2011), students with disabilities (Grenier, Dyson, & Yeaton, 2005), and learners identified as gifted (Patrick, Bangel, & Jeon, 2005), it has typically been examined as a singular practice, isolated from the overall instructional design of the lesson. A more complete implementation model for the gradual release of responsibility recognizes the recursive nature of learning and has teachers cycle purposefully through purpose setting and guided instruction, collaborative learning, and independent experiences. In Figure 1.1, we map out these phases of learning, indicating the share of responsibility that students and teachers have in each.

Figure 1.1 **A Structure for Instruction That Works**



We are not suggesting that every lesson must always start with focused instruction (goal setting and modeling) before progressing to guided instruction, then to collaborative learning, and finally to independent tasks (Grant, Lapp, Fisher, Johnson, & Frey, 2012). Teachers often reorder the phases—for example, begin a lesson with an independent task, such as bellwork or a quick-write, or engage students in collaborative peer inquiry prior to providing teacher modeling. As we stress throughout this book, what is important and necessary for deep learning is that students experience all four phases of learning when encountering new content. We will explore these phases in greater detail in subsequent chapters, but let's proceed now with an overview of each.

Focused Instruction

Focused instruction is an important part of the overall lesson design. This phase includes establishing a clear lesson purpose. We use the word *purpose* rather than *goal, objective,* or *learning target* because it's essential to ensure that students grasp the relevance of the lesson. The statement of a lesson's purpose can address goals related to content, language, and social aspects. Consider, for example, the teacher who clearly communicates the purpose of a lesson as follows:

> Our content goal today is to multiply and estimate products of fractions and mixed numerals because these are used in cooking, construction, and medicine. Our language goal for today is to use precise mathematical terminology while discussing problems and answers with one another. Our social goal today is to improve our turn-taking skills by making sure that each member of the group has a chance to participate in the discussion.

As Dick, Carey, and Carey (2001) remind us, an "instructional goal is (1) a clear, general statement of learner outcomes,

(2) related to an identified problem and needs assessment, and (3) achievable through instruction" (p. 25). These are important considerations when establishing lesson purpose. As we will discuss further in Chapter 2, it's not enough to simply state the lesson purpose. We must ensure that students have opportunities to engage with the purpose in a meaningful way and obtain feedback about their performance.

In addition to establishing purpose, the focused instruction phase of learning provides students with information about the ways in which a skilled reader, writer, or thinker processes the information under discussion. Typically, this is done through direct explanations, modeling, or think-alouds in which the teacher demonstrates the kind of thinking required to solve a problem, understand a set of directions, or interact with a text. For example, after reading aloud a passage about spiders to 3rd graders, a teacher might say:

> Now I have even more questions. I just read that spiders don't have mouth parts, so I'm wondering how they eat. I can't really visualize that, and I will definitely have to look for more information to answer that question. I didn't know that spiders are found all over the world—that was interesting to find out. To me, the most interesting spider mentioned in this text is the one that lives underwater in silken domes. Now, that is something I need to know more about.

Focused instruction is typically done with the whole class and usually lasts 15 minutes or less—long enough to clearly establish purpose and ensure that students have a model from which to work. Note that focused instruction does not have to come at the beginning of the lesson, nor is there any reason to limit focused instruction to once per lesson. The gradual release of responsibility instructional framework is recursive, and a teacher might reassume responsibility several times during a

lesson to reestablish its purpose and provide additional examples of expert thinking.

Guided Instruction

The guided instruction phase of a lesson is almost always conducted with small, purposeful groups that have been composed based on formative assessment data. There are a number of instructional routines that can be used during guided instruction, and we will explore these further in Chapter 3. The key to effective guided instruction is planning. These are not random groups of students meeting with the teacher; the groups consist of students who share a common instructional need that the teacher can address.

Guided instruction is an ideal time to differentiate. As Tomlinson and Imbeau (2010) have noted, teachers can differentiate content, process, and product. Small-group instruction allows teachers to vary the instructional materials they use, the level of prompting or questioning they employ, and the products they expect. For example, Marcus Moore,* a 7th grade science teacher, identified a group of five students who did not perform well on a subset of pre-assessment questions related to asteroid impacts. He met with this group of students and shared with them a short book from the school library called *Comets, Asteroids, and Meteorites* (Gallant, 2000). He asked each student to read specific pages related to asteroids and then to participate in a discussion with him and the others in the group about the potential effect that these bodies might have on Earth. During this 20-minute lesson, Mr. Moore validated and extended his students' understanding that, throughout history, life on Earth has been disrupted by major catastrophic events, including asteroids. At one point in the group's discussion, he provided this prompt:

*All the teachers and students we discuss in this book are real people, with names changed to protect their privacy.

> Consider what you know about the Earth's surface. Talk about that—is it all flat? *(Students all respond no.)* What do you think are the things that made the surface of the Earth look like it does? Remember, the Earth has a history. . . .

A single guided instructional event won't translate into all students developing the content knowledge or skills they are lacking, but a series of guided instructional events will. Over time and with cues, prompts, and questions, teachers can guide students to increasingly complex thinking. Guided instruction is, in part, about establishing high expectations and providing the support so that students can reach those expectations.

Collaborative Learning

As we have noted, the collaborative learning phase of instruction is too often neglected. If used at all, it tends to be a special event rather than an established instructional routine. When done right, collaborative learning is a way for students to consolidate their thinking and understanding. Negotiating with peers, discussing ideas and information, and engaging in inquiry with others gives students the opportunity to use what they have learned during focused and guided instruction.

Collaborative learning is not the time to introduce new information to students. This phase of instruction is a time for students to apply what they already know in novel situations or engage in a spiral review of previous knowledge.

It is important, too, that you allow collaborative learning to be a little experimental, a little messy. In order for students to consolidate their thinking and interact meaningfully with the content and one another, they need to encounter tasks that will reveal their partial understandings and misconceptions as well as confirm what they already know. In other words, wrestling with a problem is a necessary condition of collaborative learning. If you are pretty

certain your students will be able to complete a collaborative learning task accurately the first time through, that task would probably be better suited to the independent learning phase.

Collaborative learning is also a perfect opportunity for students to engage in accountable talk and argumentation. *Accountable talk* is a framework for teaching students about discourse in order to enrich these interactions. First developed by Lauren Resnick (2000) and a team of researchers at the Institute for Learning at the University of Pittsburgh, accountable talk describes the agreements students and their teacher commit to as they engage in partner conversations. These include staying on topic, using information that is accurate and appropriate for the topic, and thinking deeply about what the partner has to say. Students are taught to be accountable for the content and to one another, and they learn techniques for keeping the conversation moving forward, toward a richer understanding of the topic at hand. The Institute for Learning (n.d.) describes five indicators of accountable talk:

1. Press for clarification and explanation (e.g., "Could you describe what you mean?").
2. Require justification of proposals and challenges (e.g., "Where did you find that information?").
3. Recognize and challenge misconception (e.g., "I don't agree, because _____.").
4. Demand evidence for claims and arguments (e.g., "Can you give me an example?").
5. Interpret and use one another's statements (e.g., "I think David's saying _____, in which case, maybe we should _____.").

These are important skills for students to master and, on a larger scale, valuable tools for all citizens in a participatory democracy (Michaels, O'Connor, & Resnick, 2008). They are also

key to meeting Common Core State Standards in speaking and listening, the first of which asks students to "prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively" (National Governors Association Center for Best Practices, Council of Chief State School Officers [NGA/CCSSO], 2010a, p. 22).

We have seen teachers integrate collaborative learning opportunities into their instruction in a variety of ways. For example, a 10th grade social studies teacher selected a number of readings that would allow his students to compare and contrast the Glorious Revolution of England, the American Revolution, and the French Revolution. The students did so through reciprocal teaching (Palinscar & Brown, 1984), an arrangement in which groups of students read a piece of text in common; discuss the text using predicting, questioning, summarizing, and clarifying; and take notes on their discussion. At the end of the discussion, each student in the class summarizes the reading individually—a step that ensures the individual accountability that is key to successful collaborative learning.

The way in which one of these groups of students talked about their reading demonstrates how peers can support one another in the consolidation of information:

> *Jamal:* I still don't get it. Those folks in England had a revolution because the king wanted the army to be Catholic, and he got his own friends in government. But I need help to clarify what they mean by the "Dispensing Power." It sounds all Harry Potter.
>
> *Antone:* I feel you. But dispensing power—that's just the name for getting rid of rules you don't want.
>
> *LaSheika:* That king, James number 2, used a power he had to suspend laws and other rules. Adding that to the things you

said already, it made people very angry, and they started the revolution to get rid of him. It's just like the other revolutions we talked about.

Collaborative learning situations help students think through key ideas, are a natural opportunity for inquiry, and promote engagement with the content. As such, they are critical to the successful implementation of the gradual release of responsibility instructional framework.

Independent Learning

The ultimate goal of instruction is that students be able to independently apply information, ideas, content, skills, and strategies in unique situations. We want to create learners who are not dependent on others for information and ideas. As such, students need practice completing independent tasks and learning from those tasks. Overall and across time, the school and instructional events must be "organized to encourage and support a continued, increasingly mature and comprehensive acceptance of responsibilities for one's own learning" (Kesten, 1987, p. 15). The effectiveness of independent learning, however, depends on students' readiness to engage in it; too many students are asked to complete independent tasks without having received the focused or guided instruction they need.

When students are ready to apply skills and knowledge to produce new products, there is a range of independent tasks that might be used. Our experience suggests that the more authentic a task is, the more likely the student is to complete it. For example, a kindergarten teacher might ask a student to read a familiar book to three adults, a 6th grade science teacher might ask a student to predict the outcome of a lab based on the previous three experiments, and a high school art teacher might ask a student to incorporate light and perspective into a new painting. What's

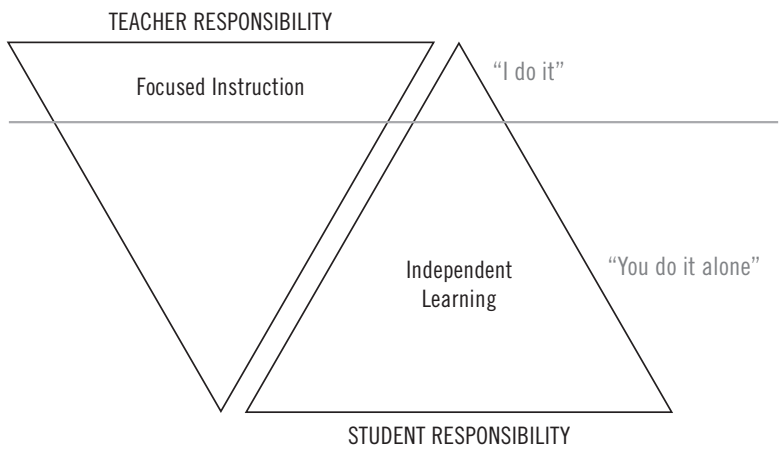
essential is that an independent learning task clearly relate to the instruction each student has received and yet also provide the student an opportunity to apply the resulting knowledge in a new way.

When Learning Isn't Occurring

With this structure for instruction that works fresh in mind, let's look at some structures that don't work so well. Unfortunately, there are still plenty of classrooms in which responsibility for learning is *not* being transferred from knowledgeable others (teachers, peers, parents) to students. Although they may feature some of the phases of instruction we have described, the omission of other phases derails learning in significant ways.

For example, in some classrooms, teachers provide modeling and then skip straight to asking students to complete independent tasks—an approach graphically represented in Figure 1.2.

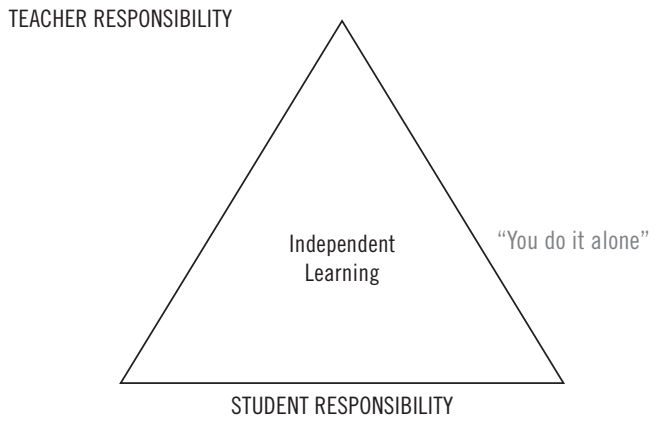
Figure 1.2 **In Some Classrooms . . .**



This instructional model is very familiar. A teacher demonstrates how to solve algebra problems and then asks students to solve the odd-numbered problems in the back of the book. A teacher reads a text aloud and then asks students to complete a comprehension worksheet based on the reading. In both cases, the teacher fails to develop students' understanding of the content through the purposeful interaction of guided instruction.

Sadly, there is a classroom model even worse than this, at least in terms of instructional development. It's the one in which students are asked to learn everything on their own, depicted in Figure 1.3.

Figure 1.3 **In Some Classrooms . . .**



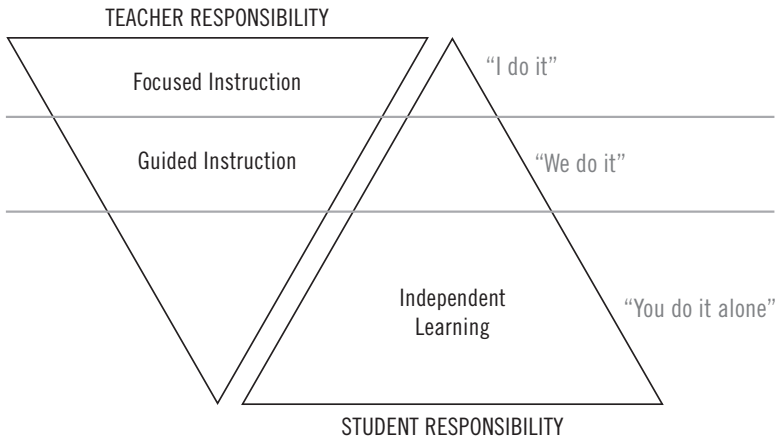
The structure of these classes is depressingly uniform. Students complete the prepared study packet of photocopied worksheets, or they read the assigned pages and then answer the questions at the back of the textbook—and they follow this pattern over and over again, day after day. There really isn't much teaching going on in these classrooms; it's mostly assigning or

causing work. Frankly, we'd be embarrassed to cash our paychecks if we "taught" like this.

There are days at school when students do need to spend significant amounts of time working independently—completing projects, writing essays, and the like. However, this should not be happening every day, and on the days it does happen, students need to be reminded of the purpose of the lesson, experience a brief episode of expert thinking, and interact with their peers.

Even in classrooms that most people would consider "good" or "good enough," the gradual release of responsibility instructional framework is seldom fully operationalized. As noted, the most frequent omission is the collaborative learning phase, leading to the instructional approach represented in Figure 1.4.

Figure 1.4 **In Some Classrooms . . .**



In these classrooms, the teacher provides modeling and then meets with small groups of students. But students don't have the opportunity to collaborate, as they are all required to complete independent tasks while waiting their turn to meet with the

teacher. For example, the teacher might model comprehension strategies useful in understanding scientific texts (*I do it*) and then meet with two or three small groups of students to guide their understanding (*We do it together*). As this is going on, the rest of the students are more likely to be assigned independent reading from a textbook (*You do it*) than they are to work in collaborative learning groups (*You do it together*).

We believe that all four phases of the gradual release of responsibility framework—focused instruction, guided instruction, collaborative learning, and independent learning—are necessary if we want students to learn deeply, think critically and creatively, and be able to mobilize learning strategies. But we didn't always understand this. Our teaching histories are replete with all of the ineffective models of instruction that we've just described.

When the Importance of Gradual Release Became Real for Us

The gradual release of responsibility instructional framework has been around for decades, and we have long used it with both the education students in our preservice classes and our public school students. But we can remember very specifically when we fully grasped its importance. The two of us were in Las Vegas at a conference. We were staying at the Venetian Hotel, a very nice place to stay. Doug had a cell phone on his hip, the old kind of cell phone that did one thing only—it made phone calls.

While we were walking through the lobby, Doug's phone rang. As he tried to answer it, it fell from his hip into the Venetian's lagoon, and down the drain it went. Given that Doug couldn't imagine a weekend without a cell phone (even one that couldn't do anything fancy), we took a taxi to the local Sprint store. Doug's plan was to exercise his insurance policy and get a free replacement phone.

The salesperson at the Sprint store saw the situation differently. Wanting to make a new sale, he directed Doug away from the "old school" phones and toward the new, high-tech models. "You need a phone that is more intuitive," he told Doug. "One that has e-mail, an address book, a calendar program, and that can search the Web." Doug assured him that no, he did not need any of these things. The sales guy—we'll call him Steve—was very persistent and noted that the newer phones also sent text messages. Doug had never sent a text message in his life, nor had the need ever arisen. But Steve was skilled. He said, "You know, the young people all send text messages. It's the new way of communicating." Doug wants to be a young person, so out came his credit card. Within minutes, he was the proud owner of a Treo 650. As Doug watched, Steve the salesperson demonstrated the phone's various fancy features. Doug felt pretty proud of his high-tech purchase.

About an hour later, back at the hotel, the new phone rang. There it sat, buzzing away, but Doug didn't know how to answer it. It didn't flip open like his old phone had, and there wasn't any obvious button labeled "Answer." Frustrated, we both got back in the taxi and returned to the Sprint store.

Of course, Doug couldn't bear to tell Steve the sales guy (who seemed to be about 12 years old) that he didn't know how to work the phone. He just held it up and said, "I think it's broken." Steve immediately took it out of Doug's hand and started working the phone.

Doug was suddenly struck by a wave of guilt. Turning to Nancy, he said, "How many times have I modeled comprehension for my students only to take back the task when they had difficulty?" What Steve the sales guy did, and what Doug recognized as something he was prone to doing himself, is a violation of the gradual release of responsibility instructional framework. When learners experience difficulty and confusion, they need guided instruction,

not more modeling. Frustrated learners already know that their teachers can complete the tasks; they've seen their teachers do so several times over. What a frustrated learner needs is direction and practice, with scaffolding in place to ensure success.

Back at the store, Doug turned to Steve and said, "I really don't need another model. I need some guided instruction. Can I hold the phone while you talk me through the operation?" Steve was a little puzzled, but he obliged. He guided, prompted, questioned, and cued Doug on how to use the phone. (Nancy got so caught up in the experience that she decided, on the spot, to buy a new Treo 650 as well.)

Of course the combination of focused instruction and one guided instructional event did not ensure that either of us could use our new technology independently. What we needed now was the opportunity to practice without the teacher (in this case, Steve) providing cues. As Doug said to Nancy, "I'm too embarrassed to ask him how to do it again. We'll have to figure it out." Well, figure it out we did, slowly and over time. That night at dinner at the Capitol Grill, we sat across the table from one another sending text messages. We collaborated, problem solving as we went.

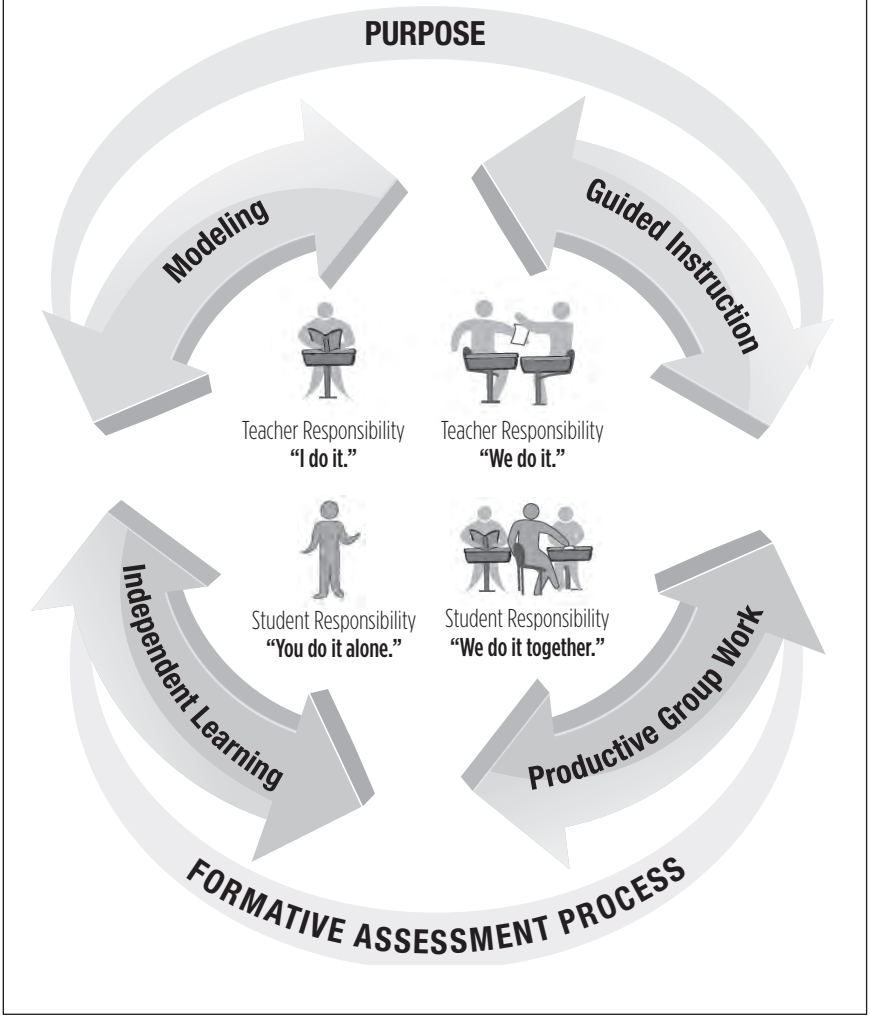
Over several weeks, with much practice and peer support, we both incorporated this new technology into our lives. And the process helped us grasp, definitively, that everything we know how to do well, we learned through this process of modeling, guided practice, collaborative learning, and independent application. The gradual release of responsibility instructional framework became real to us then, and we've both used and advocated for it ever since.

Conclusion

Structured teaching requires that teachers know their students and content well, that they regularly assess students' understanding of the content, and that they purposefully plan interrelated

lessons that transfer responsibility from the teacher to the student. The theory that guides this type of teaching, the gradual release of responsibility, can also be conceptualized as shown in Figure 1.5, which highlights the framework's recursive structure

Figure 1.5 **Gradually Releasing Responsibility for Learning from Teacher to Student**



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and the ways in which teachers might vary its four instructional phases to optimize learning.

In the remainder of this book, we examine each aspect of this instructional framework and note the variations that teachers can use to meet students' needs.

Education

Better Learning

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Through Structured Teaching

In this updated 2nd edition of the ASCD best-seller, Douglas Fisher and Nancy Frey dig deeper into the hows and whys of the gradual release of responsibility instructional framework. To gradually release responsibility is to equip students with what they need to be engaged and self-directed learners. On a day-to-day level, it means delivering lessons purposefully planned to incorporate four essential and interrelated instructional phases:

1. **Focused Instruction:** Preparing students for learning by establishing lesson purpose, modeling strategies and skills, thinking aloud, and noticing how students respond.
2. **Guided Instruction:** Strategically using prompts, cues, and questions to lead students to new understanding.
3. **Collaborative Learning:** Allowing students to consolidate their understanding through exploration, problem solving, discussion, and thinking with peers.
4. **Independent Learning:** Requiring students to use the skills and knowledge they've acquired to create authentic products and ask new questions.

The authors explore each phase, using real-life examples from a variety of disciplines. You'll find tips and tools for classroom implementation, including checklists for planning and assessment; advice on feedback, homework, group work, differentiated instruction, and blended learning; answers to frequently asked questions; and examples that align to Common Core State Standards. No matter what grade level or subject you teach, *Better Learning Through Structured Teaching* is your essential guide to helping students expand their capacity for successful and long-lasting learning.

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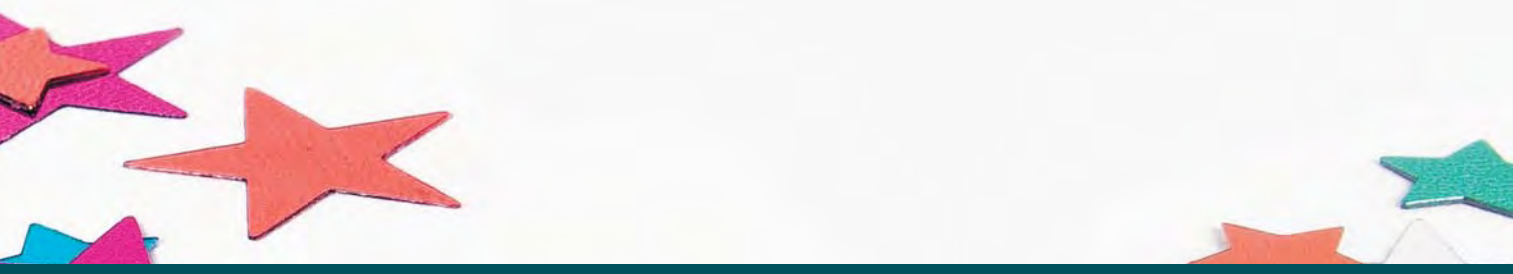

Carol Ann Tomlinson

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THE DIFFERENTIATED CLASSROOM

Responding to the Needs of All Learners

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Preface to the Second Edition

> She waited until they were all in their usual places, and then she asked, "Did I choose you, or did you choose me?" And the Souls answered, "Yes!"
>
> E. L. Konigsburg, *The View from Saturday*

This book has now been a two-part journey for me. I wrote the first edition, published in 1999, shortly after leaving my public school classroom and the 20-plus-year teaching career that grounded me as an educator and as a human being. Those years were still fresh in my thinking and breathing and were full of nostalgia then. I told my new colleagues at the University of Virginia that I would always be a middle school teacher first, if for no other reason than that I would not have as long a career at the university as I had had in public school. My powers of prognostication were a bit off—as they often are. As I conclude the revision that will be the second edition of *The Differentiated Classroom*, I have been at the university longer than I was in the public school classroom.

Many things have changed over the past 15 years. Classrooms that once had few if any English language learners in their student mix now teach students from many parts of the globe. Whereas in 1999, there was precious little classroom technology available for teachers and students, now technology routinely opens classrooms to the world and to a world of ways to think about teaching and learning. Today, we know much more about the science of teaching and learning than we did then, and educators in the United States and many other countries have been through multiple national conversations focused on what and how we teach our children. And, of course, more educators are familiar with differentiated instruction. Some even consider differentiated instruction a fundamental expectation for teachers in today's classrooms.

Nonetheless, many things have remained the same for me and in schools and classrooms. At heart, I am still a middle school teacher who is grateful for

the opportunity to know and learn from the research side of my profession. And in schools, classroom practice still tilts decidedly to the one-size-fits-all end of the flexibility spectrum. Arguably, a relentless focus on raising test scores has resulted in curriculum and instruction that are, if anything, less dynamic than they were 15 years ago. There is still an untenable gap in the school experiences of students from low-income backgrounds and students of color compared to the school experiences of white students and students from more economically secure backgrounds.

Both the similarities and differences in me and in the world of education made writing the second edition of *The Differentiated Classroom* intriguing and compelling. There was more thinking to be done, more to learn, more opportunity to get it right.

While writing the first edition, I was struck by the realization that teaching is always, in part, a writing of history. I reflected on my own history as a teacher and felt connected to the teachers who came before me, especially those who worked in one-room schoolhouses. These teachers accepted all comers and said by their actions, "I'm grateful for every one of you who is here to learn. Different as you are, we can make this work." I was also transported back to late nights at the home of my first real teaching partner, and how she and I worked to make sense of multitask classrooms, which seemed to be what our very diverse students very obviously needed. I recalled the names and faces of students I taught and who unfailingly taught me more. They were high schoolers, preschoolers, and middle schoolers. They were so alike, yet so different. They needed me to be many things to them, and they taught me how to do that. I was also reminded of colleagues in Fauquier County, Virginia, who worked hard, took professional risks, thought "outside the box," found joy in classrooms, and created joy there too. It was a classy school district, even though at the time it was rural, small, and not on the radar of many people beyond its boundaries. It was also a great training ground for teaching because there was encouragement to be innovative in service of kids.

Writing the second edition of the book has involved retracing my steps on the journey of my "second life" at the University of Virginia and in schools across the United States and well beyond its borders. I am now privileged to work with teachers throughout the world and with all the varieties of students who are its future. My colleagues at the university push my thinking and

model excellence. My students remain my best teachers. They ask, "Why?" and inevitably follow with, "Why not?"

In places near and far, other teachers' questions create patterned tapestries of common understanding and shared uncertainty, which are generally seedbeds for growth. Having the opportunity to write a second edition has been a catalyst for reflecting on how my thinking has changed. It's comforting when a passage penned 15 years ago still sounds sensible to me. It's also reassuring to realize that my thinking is sharper now, which allows me to tighten and refocus parts of the original book. And it's humbling to realize that despite a steady conversation over 15 years about teaching that responds to the needs of learners, we still gravitate to the familiar and convenient and comfortable patterns that dominated our work a decade and a half—and a half-century—ago.

Teachers now, as they did in 1999, still typically ask the same questions about teaching and differentiation. "How do you grade it?" "How can we differentiate instruction if our goal is a standardized test?" "Won't my students be angry if they don't all have the same piece of work?" "How can a classroom be fair if all students don't get the same _____ (homework, version of a test, time to complete work, etc.)?"

We've grown as teachers in the last decade and a half. We are more focused and more amenable to accountability—although perhaps not focused on better things and likely held accountable for questionable measures of success. We are less naïve. Some of us are more tech-savvy. In many schools, we have more informed and more sustained dialogue about substantive aspects of our work.

And yet, we still tend to teach our students as though they were essentially alike. We still measure and label and sort them as though we've lost sight of their essential humanity. We still have pockets of brilliant pedagogy and caverns of indefensible pedagogy just miles or blocks or hallways apart. We still serve some of our students well and many poorly. We still "cover" curriculum that is handed to us more often than we generate informed invitations for students to explore the disciplines and the world.

I suppose my students—past and present—have made me an optimist. I choose to see both the evidence of positive change in our profession and the evidence of resistance to change as opportunities to continue thinking, to continue looking for words and images that can contribute to a more humane and productive way to be a teacher. The principles in this second

edition of *The Differentiated Classroom* are as compelling to me as they were the first time I put them on paper and the first time I tested them under the tutelage of my middle school students.

Another question that is as common now as it was in 1999 is, "How can I find time to differentiate instruction? It's hard, and I'm so busy already!" Time and experience have reinforced the only answer I know to give: "Build a career. Plan to be better tomorrow than today, but don't ever plan to be finished or to be 'good enough.'" As I once heard a teacher say to a student in her classroom, "Of course it's hard. That's why it's worth your time. And you can do hard things."

Teaching is about learning, learning is about becoming, and making a history is about taking up a profession and making a life. This book is about writing your own history as a teacher—one day at a time, one increment of growth at a time, one collegial partnership at a time. I hope you find it helpful in that quest.

Before we begin, I would like to express my gratitude to all those teachers who have shaped my life for the better. Some of them are called colleagues, some students, some editors, some authors, some friends—but they are all teachers, and I am so much stronger for their presence in my world.

Finally my profound respect goes out to the teachers everywhere who resolutely refuse to teach at the same level of proficiency and professionalism they reached today and continue to look ever forward and ever upward. You are the life-shapers among us.

C.A.T.

1

What Is a Differentiated Classroom?

So many students are physically present and psychologically absent. About 40 percent of students go through the motions, neither trying hard nor paying attention. So many cut class and are truant, so many admit to cheating to get through, so many lose interest because they cannot keep up, and so many are bored by the lack of appropriate challenge. So many do not learn that ability is not enough and effort is crucial. About half of students who drop out say their classes were not interesting, and about two-thirds say not one teacher cared about their success in learning at school. Not all is rosy with teachers, teaching, and school.

Adapted slightly from John Hattie, *Visible Learning*

More than a century ago in the United States and other parts of the world, the teacher in a one-room schoolhouse faced a challenging task. She had to divide her time and energy between teaching young people of varied ages who had never held a book and could not read or write along and teaching more advanced students of varying ages who had very different content needs. Today's teachers still contend with the essential challenge of the teacher in the one-room schoolhouse: how to reach out effectively to students who span the spectrum of learning readiness, personal interests, and culturally shaped ways of seeing and speaking about and experiencing the world.

Although today's teachers generally work with individual classes where students are approximately the same age, these children arguably have an array of needs greater than those of the children in the one-room schoolhouse. Thus, a teacher's question remains much the same as it was 100 years ago: "How do I divide time, resources, and myself so that I am an effective catalyst for maximizing talent in all my students?"

Consider how these teachers answer that question.

- Ms. Handley studies her students persistently; she feels she must know them well to teach them well. She sets as her measure of professional success that every student engages in and contributes to learning every day and that every student makes observable progress every day. She works hard to gain her students' trust very early in the year and to prove herself worthy of their trust thereafter. She uses formative assessment, both formal and informal, as her primary understanding of what each student needs in order to connect with the curriculum and to grow as a result of class experiences. She says that formative assessment lets her know what she needs to do to make tomorrow's lesson work best for every student.
- Mrs. Wiggins assigns students to multiple spelling lists based on pre-assessment results rather than making the assumption that all 3rd graders should work on List 3.
- Mr. Owen matches homework to student need whenever possible, trying to ensure that practice is meaningful for everyone. He invites students to be part of determining which home tasks will best help them understand and apply mathematical concepts and principles.
- Ms. Jernigan sometimes teaches math to the whole class at once. More often, she uses a series of direct instruction, practice, and application groups based on daily formative assessment information. She matches practice activities and sense-making tasks to students' varied readiness needs, and she groups students for real-world math applications based on their interests or preferred approaches to learning. In this way, she says, students learn from and contribute to the learning of a variety of peers.
- Ms. Enrico offers students two or three options when it's time for them to develop a final product or complete an authentic assessment at the conclusion of a unit. She bases the options on students' interests so they have the chance to link what they've learned with something that seems important and relevant to them as individuals. She also often offers a "Let's Make a Deal" option through which students can propose their own product formats, making certain that the learning outcomes that

students need to demonstrate remain constant across options. Students use Wikispaces Classroom to develop their projects, which allows Ms. Enrico to monitor their progress throughout the process.

• Mr. Raules encourages English language learners to do initial drafts of writing in their first language if that helps them express their ideas. He also ensures that, as often as possible, students have access to some online or print resource materials in their first languages so they can more readily understand and relate to important concepts.

• Ms. Willoughby "flips" her classroom at key instructional points when it makes sense for students to explore new content at home and practice their newly developing skills and ideas in class. She carefully monitors students' understanding with "entry cards" or other types of formative assessment and creates instructional groups when it makes sense for students to work together toward common learning goals. She moves among the groups or sits with them to coach and mentor student progress.

• Mr. Ellis works regularly with small-group instruction he designs to move students forward from their current points of knowledge, understanding, and skill. Students with whom he's not meeting at a given time work independently, in pairs or in small groups, on practice or sense-making tasks set at appropriate challenge levels or tailored to connect current content to students' interests. Formative assessment guides his instructional planning.

All of these teachers are differentiating instruction. They may have practiced differentiation before it had a name. They are simply teachers who strive to do whatever it takes to ensure that struggling, advanced, and in-between learners; students with varied cultural heritages; and children with a broad array of background experiences all grow as much as they possibly can each day, each week, and throughout the year.

Hallmarks of Differentiated Classrooms

In differentiated classrooms, teachers begin with two critical "givens": there are content requirements—often in the form of "standards"—that will serve as destination points for their students, and there are students who will inevitably vary as learners. Thus, teachers in differentiated classrooms accept and act on the premise that they must be ready to engage students in instruction through different approaches to learning, by appealing to a range of interests,

and by using varied rates of instruction along with varied degrees of complexity and differing support systems. In differentiated classrooms, teachers ensure that students compete against themselves as they grow and develop more than they compete against one another, always moving toward—and often beyond—designated content goals.

In other words, teachers who differentiate provide specific alternatives for individuals to learn as deeply as possible and as quickly as possible, without assuming one student's road map for learning is identical to anyone else's. These teachers believe that students should be held to high standards. They work diligently to ensure that all students work harder than they meant to; achieve more than they thought they could; and come to believe that learning involves risk, error, and personal triumph. These teachers also work to ensure that all students consistently experience the reality that success stems from hard and informed work.

Teachers in differentiated classes use time flexibly, call upon a range of instructional strategies, and become partners with their students so that both what is learned and the learning environment are shaped to support the learner and learning. They do not force-fit learners into a standard mold; these teachers are students of their students. They are diagnosticians, prescribing the best possible instruction based on both their content knowledge and their emerging understanding of students' progress in mastering critical content. These teachers are also artists who use the tools of their craft to address students' needs. They do not aspire to standardized, mass-produced lessons because they recognize that students are individuals and require a personal fit. Their goal is student learning and satisfaction in learning, not curriculum coverage.

Teachers in differentiated classrooms begin with a clear and solid sense of what constitutes powerful curriculum and engaging instruction. Then they ask what it will take to modify that curriculum and instruction so that each learner comes away with knowledge, understanding, and skills necessary to take on the next important phase of learning. Essentially, teachers in differentiated classrooms accept, embrace, and plan for the fact that learners bring to school both many commonalities and the essential differences that make them individuals.

Differentiated classrooms embody common sense. The logical flow of thought in a differentiated classroom is this: a nurturing environment encourages learning. Quality curriculum requires clear and compelling learning goals used in ways that engage students' minds and lead to understanding. Persistent

formative assessment guides both teacher and students toward essential goals. Instruction works best when it's carefully aligned with content goals and fashioned to address the needs indicated by both formal and informal formative assessment. Classroom management must allow for both predictability and flexibility in order for a range of students to achieve essential goals. Although this sequence of logic is more or less common sense, nonetheless it can be difficult to achieve—as common sense often is. In part, it can be difficult to implement and plan for effectively differentiated classrooms because we see few examples of good ones. There *are* such examples, however, and they offer a productive way to start exploring differentiated instruction.

Portraits from Schools

Teachers work daily to find ways to reach out to individual learners at their varied points of readiness, interest, and preferred approaches to learning. There is no single "right way" to create an effectively differentiated classroom; teachers craft responsive learning places in ways that match their own personality and approach to teaching. Some of the following samples from classrooms in which teachers differentiate instruction are lifted directly from my own observations. Some are composites of several classrooms or extensions of conversations with teachers. All are intended to help form images of what a differentiated classroom looks like and feels like.

Think carefully about the contrasts between examples in which teachers teach with little regard to student variance and those in which teachers plan with student variance in mind. Think about particular students you teach. Which scenario is likely to be a better fit for those students? Why?

Snapshots from Two Primary Classrooms

For a part of each day in Mrs. Jasper's 1st grade class, students rotate among learning centers. Mrs. Jasper has worked hard for several years to provide a variety of learning centers related to several subject areas. All students go to all learning centers because Mrs. Jasper says they feel it's unfair if they don't all do the same thing. Students enjoy the movement and the independence the learning centers provide.

Many times, Isabel breezes through the center work. Just as frequently, Jamie is confused about how to do the work. Mrs. Jasper tries to help Jamie as often as she can, but she doesn't worry so much about Isabel because her

skills are well beyond those expected of a 1st grader, and Isabel completes all of the work quite readily and accurately. Today, all students in Mrs. Jasper's class will work in a learning center on compound words. From a list of 10 compound words, they will select and illustrate 5. Later, Mrs. Jasper will ask for volunteers to show their illustrations. She will do this until the students share illustrations for all 10 words.

Down the hall, Ms. Cunningham also uses learning centers in her 1st grade classroom. She, too, has invested considerable time in developing interesting centers on a variety of subjects. Ms. Cunningham's centers, however, draw upon some of the principles of differentiated classrooms. Sometimes all students work in a particular learning center, if it introduces an idea or skill new to everyone. More often, Ms. Cunningham assigns students to a specific learning center or to a particular task at a certain learning center, based on her continually developing sense of their individual readiness.

Today, her students will also do learning center work focused on compound words. Students' names are listed at the center, and beside each name is a sticker in one of four colors. Each student works on a task contained in the folder that matches the color of his or her sticker. For example, Sam has a red sticker next to his name. Using the materials in the red folder, Sam must decide the correct order of pairs of words to make familiar compound words. He also will make a poster that illustrates each simple word and the new compound word they form. Using materials in the blue folder, Jenna will look around the classroom and in books to find examples of compound words. She will write them out and illustrate them in a booklet. Using materials in the purple folder, Tjuana will write a poem or a story that uses compound words she generates and that make the story or poem interesting. She then can illustrate the compound words to make the story or poem interesting to look at as well as to read. In the green folder, Dillon will find a story the teacher has written. It contains correct and incorrect compound words. Dillon will be a word detective, looking for "villains" and "good guys" among the compound words. He will create a chart to list the good guys (correct compound words) and the villains (incorrect compound words) in the story, ultimately correcting the "villains" in the story.

Tomorrow, during circle time, all students may share what they did with their compound words. As students listen, they are encouraged to say the thing they think is best about each presenter's work, based on a checklist of learning goals posted for the assignment. Ms. Cunningham may also spotlight a few students who are sometimes reticent to speak in front of the

group, noting something she appreciated about their work and asking them a question that should elicit at least a brief response.

Examples from Two Elementary Classrooms

In 5th grade, students at Sullins Elementary work with the concept of "famous people" to make connections between social studies and language arts. All students are expected to hone and apply research skills, write with a logical flow of ideas, and share with an audience what they understand about the famous people they are studying.

Mr. Elliott asks all his students to select and read a biography of a famous person from the literature or history they have studied. Students then use books from the school library and Internet resources to find out more about the person they have chosen. Each student writes a report about a famous person, describing the person's culture, childhood, education, challenges, and contributions to the world. Students are encouraged to use both original and "found" illustrations in their reports. Mr. Elliott gives the whole class a coaching rubric focused on use of research resources, organization, and quality of language.

In her 5th grade class, Mrs. May gives her students interest inventories to help her identify areas in which they may have a special talent or fascination, such as sports, art, medicine, the outdoors, writing, or helping others. Ultimately, each student selects an area of special interest or curiosity to be his or her focus in an upcoming unit on characteristics of famous people.

Mrs. May's class discusses the fact that in all areas of human endeavor, famous people from many cultures have shaped our understanding and practice in all sorts of fields. Mrs. May reads aloud biographical sketches of a statesman, a musician, an astronaut, a community organizer, a scientist, and an artist. The people she spotlights are both male and female and represent multiple ethnic or cultural groups. Together, students and teacher describe traits and principles related to these famous people.

For example, famous people often are creative, they take risks to make advances in their fields, they tend to be rejected before they are admired, they sometimes fail and sometimes succeed, and they are persistent. Students test these principles as they discuss historic figures, authors, and people in the news today. In the end, students conclude that people can be famous "for the right reasons" or "for the wrong reasons." They decide to research people who became famous by having a positive impact on the world.

The school media specialist helps each student to generate lists of "productive" famous people in that student's particular categories of interest. She also helps them learn how to locate a variety of resources that can help them research famous individuals from varied cultures and time periods (including brainstorming possible interview sources). She talks with them about the importance of selecting research materials they can read and understand clearly, and she offers to help them look for alternatives for materials that seem too easy or too hard for them.

Mrs. May and her students talk about how to take notes and try various ways to take notes during their research. They also consider different methods of organizing their information, such as webs, outlines, storyboards, and matrices, and discuss the approaches that seem to work well for different students in the class. They talk about all the ways they can express what they learn: through essays, historical fiction, monologues, or character sketches. Mrs. May provides students with a rubric that guides them on the content, research, planning, and traits of effective narrative writing. Students also work with Mrs. May individually to set their own personal goals for understandings, working processes, and final products.

As the assignment continues, Mrs. May works with individuals and small groups to assess their understanding and progress and to provide personal coaching. Students also assess each other's work according to the rubrics and individual goals. They ensure that each report shows someone who has made a positive contribution to the world. In the end, the whole class completes a mural in the hallway outside their room that includes the principles related to fame in the shape of puzzle pieces. On each puzzle piece, students write or illustrate examples of the principle from their famous person's life. They then add ways in which they believe the principles are or will be important in their own lives.

Comparisons from the Middle Grades

In Ms. Cornell's science class, students work in a specific cycle: read the textbook chapter, answer questions at the end of the chapter, discuss what they have read, complete a lab, and take a quiz. Students do the labs and complete their reports in groups of four. Sometimes Ms. Cornell assigns students to a lab group as a way of minimizing behavior problems; often, students select their own lab groups. They read the text and answer the questions individually. Ms. Cornell typically conducts two or three whole-class

discussions during a chapter. The class works with unit reviews before each chapter test. Students enter the science fair in the spring, with a project based on a topic studied in the fall or winter.

Mrs. Santos often assigns students in her science class to "reading squads" when they work with text or online materials; students of similar reading levels usually work together. Mrs. Santos varies graphic organizers and learning-log prompts according to the amount of structure and concreteness the various groups need to grasp essential ideas from the book chapter, and she provides Internet resources at varied levels of sophistication based on student reading proficiency. Varied reading routines allow students to read aloud with peers or to read silently. The students complete graphic organizers together and respond to writing prompts or blog entries individually. As students work, Mrs. Santos moves among groups or meets with individual students. Sometimes she reads key passages to students or asks them to read to her. She always probes for deeper understanding and helps students to clarify their thinking.

Sometimes Mrs. Santos asks students to complete labs, watch videos, explore models or diagrams online, or work with supplementary materials before they read the chapter so they have a clear sense of the unit's guiding principles to support their later work with text that is complex and abstract. Sometimes they read the text for a while, do a lab or view a demonstration, and go back to the text. Sometimes labs and supplementary materials follow text exploration. She may vary the order of interaction with materials for small groups of students based on their interests or facility with abstract ideas. Frequently, she has two versions of a lab going simultaneously: one that includes scaffolding for students who need concrete experiences to understand essential principles, and one for students who already grasp the important principles and can deal with them in complex and uncertain contexts.

Multiple times in the course of a unit, Mrs. Santos uses formative assessment that aligns tightly with the unit's essential learning outcomes. Thus, she is always aware of which students need additional instruction with key knowledge, understandings, and skills; which students need more advanced applications early in the unit; and who may be having difficulty transferring ideas or skills to new contexts. Students typically have a choice of formats for key performance assessments, with required learning outcomes constant across formats. When students complete summative science projects, a single rubric provides criteria for success that apply across options:

• Work alone or with peers to investigate and address a problem in the community that relates to the topic you are studying.

• Work in a mentorship role with a person or group in the community using the current topic to address a local problem.

• Study scientists past and present who have positively influenced the practice of science in the topic you have studied.

• Write a science fiction story based on the topic you have studied, using accurate science in the context of fiction writing.

• Use classroom cameras to create a narrated photo essay that would help a younger student understand how some facet of the topic you have studied works in the world.

• Propose another option and work with Mrs. Santos to shape a project that demonstrates understanding and skill in science.

In Mrs. O'Reilly's 8th grade English class, students read the same novels and have whole-class discussions on them. Students complete journal entries on their readings. Typically, Mrs. O'Reilly assigns a portion of the novel to read for homework each night, accompanied by a summarization activity or set of follow-up questions to answer.

In Mr. Wilkerson's 8th grade English class, students often read novels that have a common theme, such as courage or conflict resolution. Students select from a group of four or five novels, and Mr. Wilkerson provides classroom sets of the books. He also makes sure the novels span a considerable reading range, tap into several interests, and reflect an array of cultures.

Mr. Wilkerson's students meet frequently in literature circles, where they discuss their ideas with others who are reading the same novel. Although the various literature circles reflect different degrees of reading proficiency, students in each group take turns serving in one of five leadership roles: discussion director, graphic illustrator, historical investigator, literary luminary, and vocabulary enricher. There are printed guides for each role to help students fulfill their responsibilities. Mr. Wilkerson also varies journal prompts and blog entries; sometimes he assigns different prompts or entries to different students, and sometimes he encourages students to select a prompt that interests them. There also are many opportunities for whole-class discussion on the theme that all the novels share, allowing all students to contribute to an understanding of how the theme "plays out" in the book they are reading and in life.

Samples from High School

In Spanish I, Mrs. Horton's students nearly always complete the same language pattern drills, work on the same oral exercises, read the same translation and culture-related passages, and take the same quizzes. They often work individually on their in-class assignments but sometimes practice in pairs or work with small groups to complete a task.

In French I, Mr. Adams's students often work with written exercises at differing levels of complexity and with different amounts of teacher support. Their oral exercises focus on the same basic structures but require different levels of sophistication with the language. Sometimes students can "opt out" of review sessions to create their own French dialogue, read a French-language magazine, or correspond with a French-speaking e-pal. Students often work in teacher-assigned, mixed-readiness pairs to prepare for what Mr. Adams calls "fundamentals quizzes." Students who wish to do so can, from time to time, select a partner to prepare for a "challenge quiz." Success on a challenge quiz nets students homework passes they can use to be excused from homework assignments when their work on the quiz indicates they have mastered the material. Mr. Adams's students self-assess their performance on formative tasks and set personal goals for increased language fluency and proficiency; they also select homework assignments that will best help them achieve those goals. In addition, each student "adopts" a country or region of a country in which French is spoken. During the year, students explore various cultural, social, linguistic, and geographical concepts in "their" country, and they work in groups to compare and contrast French influences across contexts.

In Mr. Matheson's Algebra II class, students typically complete the same homework, check the homework assignments as a whole class, work independently on the same in-class drills, and take the same tests.

In her Algebra II class, Mrs. Wang helps students identify key concepts, principles or big ideas, and skills in a given chapter. After various formative and summative assessments, students are encouraged to look at their own assessment results and select homework assignments and in-class mini-workshops that will help them clarify areas of confusion.

Toward the end of a chapter, Mrs. Wang gives students different "challenge problems," which they can tackle alone or with a classmate. Each student's problem is designed to be a mental reach; Mrs. Wang encourages students to discuss multiple ways of solving the problem and to articulate their thinking as they work through the problem. On end-of-chapter tests, students find

challenge problems similar but not identical to the ones Mrs. Wang gave them earlier. There may be 5 or 6 different challenge problems distributed among her approximately 30 students.

In physical education, Mrs. Bowen's students usually all work with the same exercises and basketball drills. Mr. Wharton, on the other hand, helps his students diagnose their starting points with various exercises and basketball skills, set challenging goals for personal improvement, and chart their personal progress. He particularly stresses growth in two areas: those where a student is best and weakest.

In U.S. History, Ms. Roberson and her students cover the information in the text sequentially. She lectures to supplement information in the text and often uses primary documents available on the Internet to have students compare perspectives on events. Ms. Roberson includes a special emphasis on women's history and African American history during months designated by the school for those emphases.

Mrs. Washington's U.S. History students look for key concepts and principles or "big ideas" that recur in each period of history they study, as well as for concepts and big ideas unique to each period. They study different points of view and the experiences shared by various cultural, economic, and gender groups. They use a variety of text, video, audio, and online resources at varying degrees of difficulty and in different languages (to support students who are learning English).

When Mrs. Washington lectures, she always uses PowerPoint slides or whiteboard elements that emphasize key vocabulary and ideas in order to help visual learners. She also pauses throughout the lecture to encourage students to talk with one another and the class about key ideas and to ensure their grasp of those ideas.

Essays and projects often ask students to take their understanding of a period in U.S. history and contrast it with what was going on in another culture or in another geographical area during the same period. Project assignments always offer several options for how students can express their knowledge, understandings, and skills. At the end of each quarter, students can take an exam as their final summative assessment, or they can use an authentic assessment they have modified (with Mrs. Washington's guidance and approval) as half of their final summative grade. Both options require students to demonstrate the knowledge, understanding, and skill designated as essential for the unit.

• • •

Differentiated classrooms support students who learn in different ways and at different rates and who bring to school different talents and interests. More significantly, such classrooms work better for a wide range of students than do one-size-fits-all settings. Teachers in differentiated classrooms are more in touch with their students and approach teaching more as an art than as a mechanical exercise.

Developing classrooms that actively attend to both student similarities and student differences is anything but simple. The chapters that follow describe classrooms with differentiated and responsive instruction, and they offer guidance on how you can, over time, make such a setting a reality for your class or school.

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New Challenges, New Solutions

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Brian D. Mendler

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I dedicate this wonderful book to my wonderful family:
The Garber clan
Esther Garber (1881-1966)
Joseph Garber (1884-1948)

Ann Curwin (1908-1987), Mollie Hurwitz (1906-2002),
Al Garber (1914-1998), and Mickie Ellison

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Rick Curwin

To my wonderful children, Jason, Brian and Lisa, my awesome daughter-in-law Ticia, and my precious grandchildren, Caleb and Ava. You are what has truly given meaning to my life. To my wife, Barbara, for your love, support and lifelong friendship. And finally, to my lifetime friends, John Bulger, Martha Bulger, Susan and Howard Itkin, Marty and Jan Krupnick, Linda Steinberg, and Patty and Scott Tripler for growing old together and being there through thick and thin.

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Thanks for your constant support, guidance, advice, and love. Your dedication to our family and to the students you taught are traits I can only hope to one day copy. I love you.

Brian Mendler

Discipline with Dignity

3rd Edition

New Challenges, New Solutions

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Preface

When ASCD asked us to write a new edition of *Discipline with Dignity*, we were given an opportunity to review our work and its impact on children in the years since we first wrote it. We invited Brian Mendler to join us in this endeavor. Brian is an experienced teacher and has used the Discipline with Dignity strategies and philosophy in his classroom with the most challenging of students. Brian adds real-life experience and fresh ideas to our original work. He has challenged us to review our older beliefs and brings a wonderful charm that has greatly enhanced this new book. We are very grateful for his contribution.

Throughout the process of writing this book, the three of us have carefully examined every page of our original work. We are happy to say that much of the original work is still pertinent and remains intact. However, we have enhanced, added, and learned so much since the first publication. Students have changed, society has changed, schools have changed, and, of course, so have we. This edition stays true to our original beliefs and values. Children and teachers need dignity and tools to learn to become responsible people. Yet so much more has been added. We hope you benefit as much from reading this new edition as we have from writing it.

Notes

Gender

We felt uncomfortable with the convention of using singular masculine pronouns like *he* and *his*, so we have tried to alternate between *he* and *she* throughout the book.

Voice

Throughout the book, we use the plural *we* for our thoughts, ideas, and strategies. We have also included personal stories and anecdotes. We have purposely left out the name of the author who experienced the anecdote.

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Introduction

Jack Hasselbring, a music teacher who attended one of our recent discipline seminars, commented, "I really value your ideas on discipline, especially during a very tough first year of teaching at an inner-city school. I was given your book and a taped seminar of yours, and it saved my career." At the same seminar, a young lady asked us, "I've heard of Discipline with Dignity, but I do not know what it is. Can you tell me?" Between these two incidents lies the reason for this newly revised edition of our book *Discipline with Dignity*.

This special edition of *Discipline with Dignity* is a thank-you to the thousands of educators who have gratified us by learning and using the concepts and strategies from the first two editions to benefit students and make their schools better places. Unlike the second edition, in which we added a new introduction but kept the original book intact, this edition offers new insights, concepts, and many updated strategies and interventions to help educators facing the greater challenges of today's youth.

It is not easy to give a simple answer to the question "What is Discipline with Dignity?"

- It is not only a program.
- It is not just a solution.

- It has a structure that can apply to all situations, but it is not a standardized formula.
- It does not change children to be somebody else. It makes them better at who they already are.

We define this approach as a set of values on which interventions, strategies, and constructs are built to help children make informed choices to improve their behavior and to make life better for teachers. When that happens, children are so much more likely to learn the content we want to teach, understand why they need to learn it, and comprehend how to use it in constructive ways to improve their lives and the lives of others.

Much of what we introduced in the first publication of this book was considered radical then but is now accepted as good practice by most educators. The ideas of students helping develop rules and having a say in choosing a consequence are examples. Defining discipline as teaching responsibility rather than simply demanding obedience is another. In fact, if imitation is the sincerest form of flattery, then the number and variety of programs that have adapted, borrowed, and used the Discipline with Dignity model, structure, and techniques honor us.

Yet much has changed since that first publication. Who could have guessed that so many students would be victimized by violence and bullying, some rationally fearing for their lives? How many would have predicted that the airwaves would be filled with hate-mongering language and musical lyrics that make hardened inner-city students sound like choirboys? Was there any way to have known that students could photograph their tests and send them in a nanosecond to their friends on cell phones or that the buzz and distraction of students texting each other would be a common fixture in every school? It is equally doubtful that most teachers would have thought that nearly every class would be filled with a group of students of wide-ranging intellectual, cultural, and emotional diversity. Now part of the fabric of education, inclusion is here to stay.

A year after the second edition of *Discipline with Dignity* (Curwin & Mendler, 1999a), the word *Columbine* became a household name. Incidents like the shooting at that Colorado school changed the way we understood school safety and increased the responsibility to both protect and connect with all students. Because of Columbine and other school shootings, district and school policies were created much out of fear and desperation. "Zero tolerance" became the catchword against certain acts deemed inappropriate. While the idea (safety) behind zero tolerance was primarily good, many of these policies have limited the effectiveness of teachers and administrators. Although policies can provide guidance, when zero tolerance is used to expel a kindergarten student for having an aspirin bottle, all must agree that the policy has gone too far. Many educators are frustrated by the number of policies they are required to follow on a daily basis.

Discipline with Dignity is predicated on the fact that one size does not fit all. Teachers need flexibility to use their judgment. We suggest a program in which being fair does not mean having to treat everyone exactly the same way. Do we want our students to have "zero tolerance" for each other when in an argument on the playground, on the bus, or in the lunchroom?

Envision is a charter school project consisting of four schools in the Bay Area that serve primarily low-income urban youth. Its practices represent much of what we recommend in this book. Envision emphasizes community building, real learning, high expectations, and treating everyone with dignity. A major incident occurred the day before we made our visit to one of the schools, the Impact Academy in Hayward, California, that illustrates how our understanding of children's lives has changed.

On that morning, two gunmen stole a car and were attempting armed robberies near the school. While in pursuit of the gunmen, the police mistook a 14-year-old student of the school for one of them. Dwayne, a charming, warm, and easygoing young man, was shoved to the ground and handcuffed. Six police officers aimed

their weapons at him and demanded that he not move. Jen Davis Wickens, the superb school principal, saw this incident and ran out to tell the police that they had the wrong person, but the officers held Dwayne on the ground for about another half hour before releasing him. One might expect Dwayne to have been upset and angry, but instead he said, "I'm not mad. This happens in my neighborhood all the time." Although we are grateful for the diligence of the police in making a split-second decision that might have prevented an armed criminal from getting loose in the school, the possibility of racial profiling and the officers' refusal to immediately release Dwayne are very bothersome.

In a community meeting, Jen Davis Wickens asked how many other students had experienced being wrongly accused. Far too many indicated an affirmative answer. For most educators, this is hard to imagine. Few of us have ever been wrongly accused of a crime or had six guns pointed at our heads. After an incident like this, is it even possible to get back to teaching and learning math and science?

So many nonschool factors affect student behavior, yet the challenge we face as educators is to maximize the power we do have to influence the lives of children. Many children once labeled "at risk" who grow up to be successful often attribute their success to a caring teacher who took a special interest in them. There is much that competes for the hearts, minds, and souls of our students. When we fail to capture their interest, vulnerability to drugs, gangs, and other unsavory influences increases. Schools must find ways to successfully compete with gangs to meet the needs of children.

Discipline with Dignity offers an affirming approach to discipline that promotes respect for self and others. It emphasizes specific strategies and structures for educators to help all students, including the "throwaways," be successful.

To make the rewrite of this book as relevant and useful as we could, we thoroughly examined each chapter, paying careful attention to four factors:

• Given the changes in the world, society, school, and students themselves, what in the chapter is less relevant or perhaps not relevant at all?

• Given the same changes, what needs to be added to help with new problems and student behaviors?

• What should we keep that still has strong merit with updated, real-life examples?

• Could we continue to affirm all of the principles, beliefs, and values at the core of this approach? Did some need to be eliminated with new ones added or others changed to accommodate the realities of today?

At the beginning of each chapter, we have added a section called "What We Have Learned." In this section we review what has changed in schools and the ways students behave that address the concerns just listed. We then added to, subtracted from, or reinforced the previously written chapter to make its material relevant in today's classrooms. Much was significantly redesigned, some only slightly. What follows is a book true to our original vision and our beliefs that is, in our view, up-to-date and current, without losing what made *Discipline with Dignity* so special in earlier editions.

We enjoyed writing this edition and learned much from the process. More important, we believe that our efforts will help improve the lives of children. Nothing is better than that.

1

Discipline

WHAT WE HAVE LEARNED

In this overview chapter on discipline, originally written 20 years ago, we explore both out-of-school and in-school causes of discipline problems. Sadly, the out-of-school causes that we originally wrote about have only worsened, and new ones have emerged. In 1988, the year of first publication, there had been no Columbine or Virginia Tech shootings. The staggering 18,000 acts of television violence witnessed by children as they entered adolescence have since grown to hundreds of thousands. The frequent "subliminal" messages of sex and violence purveyed through print and electronic media are now so overt that our airwaves are filled with violent and sexually exploitative television shows, movies, words, actions, titles, and video games. Although *Father Knows Best* was a thing of the past even in 1988, we were still a long way from Fox's *Who's Your Daddy?* There was no Internet back then offering chat rooms filled with whatever you want, whenever you want it, or blogs from people spouting any crazy message.

For all the legal advances we have made in gender, racial, and sexual preference equality, the problems of bullying are at least as bad as they have always been and have even taken new forms, such as cyberbullying. Segregation, while illegal for many years now in the United States, seems more the norm than the exception when it comes to schooling. Although we have known for many years of the correlation between socioeconomic status (SES)

and achievement, white flight to the suburbs has left urban America with a preponderance of schools with a very high concentration of poverty and therefore arguably a school culture less likely to reinforce high achievement. Despite employing early intervention, monitoring academic progress, differentiating instruction, adding career-themed curricula, reconfiguring middle and high schools to create smaller classes, and emphasizing high standards with high-stakes tests, graduation rates in urban areas remain abysmal. For example, New York State Department of Education statistics show that 45 percent of high school students in the "big four" cities of upstate New York graduate four years after starting high school versus about 85 percent in the suburbs (Loudon & McLendon, 2007).

The "me generation" we talked about in the first edition has grown into a world where many expect entitlement without effort. The continued erosion of social civility, often poorly modeled by our political, civic, and entertainment leaders, has legitimized name-calling, blame, and meanness as acceptable methods by which to express disagreement. These troublesome activities are often experienced in the home by our most difficult students.

Our observations and experiences tell us that somewhere between 70 and 90 percent of discipline problems have their root causes in places outside school—the aforementioned issues as well as others, including dysfunctional families and drug and alcohol abuse. Although educators can directly do little to change these factors, it is important that we understand them and do whatever we can as citizens to make a difference. More important is to appreciate that the 10 to 30 percent of the factors we do control, which are wrapped inside the in-school causes, can change many lives when we maximize the impact of positively affecting these factors (Marzano, 2003). An hour a day helping students to be cared about, listened to, and thought of as productive, useful members of class is better than none at all.

This chapter explores both in-school and out-of-school causes of discipline problems. It shares suggestions about each and concludes with an overview of our approach to discipline. Although social and educational changes have undoubtedly occurred since this book's first publication, the framework offered in *Discipline with Dignity* remains as relevant today as ever.

In 1907, William Chandler Bagley of the University of Illinois wrote:

> Absolute fearlessness is the first essential for the teacher on whom rests the responsibility for governing an elementary or secondary school. This fearlessness is not alone or chiefly the expression of physical courage, although this must not be lacking. It is rather an expression of moral courage; daring the sometimes certain interference of parents, officious trustees [administrators] and others of like character; standing firm in one's convictions even though the community may not approve. And, after all, it is this sort of courage that is the rarest and, at the same time, the most essential. (p. 105)

In 2006, Michael Carey, a high school senior from Rochester, New York, wrote the following poem about his experiences in school:

School, if that's what you call it . . .
Even when I'm here, I'm never all there
Your work is so hard; I'm pulling my hair
My friends all do well, but I can't compare
I work really hard, but As are so rare
You yell and scream right into my face
*Your not a teacher, you're a fu**ing disgrace*
Not just to me but to other students too
We all hate school; the one we hate most is you
The work is so hard, the math is so tough
This school would be fun, if it wasn't so rough
Children fight each other to prove they're not weak
They fight each other, our futures so bleak.
I wish I was happy, I wish school was great
I'm 16 years old and you said "it's too late!"
For me to change and learn how to read
Why do I come? I'll never succeed
I try my best; it's not good enough
Why do I bother so I leave in a huff!

For at least the 10 decades between the writings of Dr. Bagley and Michael, teachers and students have often needed courage to face each other. School is a battleground for too many participants, a place where major confrontations and minor skirmishes occur daily. Why must this be so? Teachers and students share the same space, time, goals, and needs. They spend most of the day communicating with each other, thinking about each other, scheming against each other, and judging each other. When they are antagonistic, they expend as much if not more time and energy trying to outsmart each other and win, or at least achieve a standoff. If things get bad enough, they have the power to ruin each other's lives. When things go well, they share tender moments, meaningful triumphs, and genuine respect and love. Regardless of how their relationship goes, teachers and students never forget each other.

Much has been written about discipline over the years, and many programs and methods have been tried and retried with new names. The issue will always be an integral part of school because students will always learn more than the content of the curriculum. They will learn about their behavior, their choices, and their impact on others. Instead of trying to solve the discipline problem, it might be wiser to try to positively affect the lives of children. We strongly advocate and propose a model of discipline based on a positive value system and suggest many practical methods to implement such a system in the classroom. Good discipline is about doing what is best for students to make good, healthy choices, not about making the lives of educators easier. A wise educator once suggested that if you always do what's in the best interest of children, there will always be a place for you in education, and you will always make some people angry!

This book describes strategies for developing a philosophy about behavior and classroom management based on sound educational, psychological, and commonsense principles. This will include

- Developing a comprehensive classroom discipline plan,
- Preventing behavior and management problems from occurring,
- Stopping misbehavior when it occurs without attacking the dignity of the student,
- Resolving problems with students who chronically disrupt the learning process,
- Reducing student stress as well as your own, and
- Using special guidelines for rules and consequences that work.

Out-of-School Causes of Discipline Problems

Jon, a student growing up in foster care, summed it up:

> I do not even have parents. I mean, not a mom and a dad the way you would think of it. You see, I live in a foster home, which means I go home every single night to paid employees. Most of the people that work at the place have their own children. They do not really care about me. Sure, they are supposed to . . . but just like any other job, many are here to pick up a paycheck or wait for their next vacation. They act happy when I get a good grade, or have a good report card, but it's nothing like most children get to experience when they get home! Holidays and breaks are a disaster for me. I do not ever get to go on vacation like most of the other children here. Instead, I get to sit home thinking about where my real mom is, why she left me, and if I'll ever see her again. Honestly, your English homework is the farthest thing from my mind right now.

Sadly, this student is not alone, and success for children like him is rare. According to Christian (2003), the educational deficits of foster children are reflected in higher rates of grade retention; lower scores on standardized tests; and higher absenteeism, tardiness, truancy, and dropout rates. The poor academic performance of these children affects their lives after foster care and contributes to higher-than-average rates of homelessness,

criminality, drug abuse, and unemployment among foster care "graduates."

We do not mean to imply that discipline problems in school are the responsibility of the foster care system. Some children go home to dysfunctional biological families. In these homes many of the basics are not taught. Words like *please*, *thank you*, and *share* are not used, so children never learn the appropriate way to use them. In some families, the values necessary for success at school are either untaught or, more important, unlived. Good discipline is increasingly about educators taking the time to teach parenting-type skills, so students will have the self-control to learn the basics and beyond.

Much of this book addresses what can be done about discipline problems, but it is first necessary to consider those factors responsible for the alienation experienced by too many youths in schools. The causes of discipline problems are discussed because it is our belief that discipline prevention and successful intervention hinge on an understanding of both in-school and out-of-school issues that strongly influence student behavior. Just as good medicine often depends on knowing the specifics, so, too, does good teaching. For example, imagine two people with really bad headaches. A physician determines that the first patient's headache is caused by eyestrain. She gets glasses, and the headache goes away. The second patient learns he has a brain tumor and will need immediate surgery. In this example both patients have the same symptom, but without understanding why the headache exists, each cannot be properly treated.

In figuring out why a disruption happens, it is sometimes wise to ask the student. To get a valid answer, we must press beyond students saying, "I don't know" and "He did it first." In a calmer moment, it is appropriate to say, "I do not like being called a fu**ing a**hole and talking to me in that way is entirely unacceptable. You are better than that! Before we look at an appropriate consequence, what happened to make you so angry?" When a student does something inappropriate, it is important to teach

a better way to respond, model the behavior we want the student to exhibit, and maintain everyone's dignity.

Without our belaboring the social ills of our world, the fact is that we live in a society where resolving problems through shootings, knifings, fist fights, extortion, bullying, and threats of injury are commonplace. Children are constantly exposed to violence, and many have become insensitive to it. The backdrop of war has been a theme for the entirety of entering kindergartners' lives. Loss of American soldiers while fighting the war on terror is so common that their deaths rarely make front-page news anymore. In addition, children do what is done to them. If parents hit, yell, or humiliate their child on a regular basis, we can expect the same behavior from the child.

Effects of the Media

Although it is impossible to know the full extent of the influence of standard programming, we believe that television and other media have a potentially damaging effect on children. A recent study that reviewed a decade of research concerning television and youth concluded that children will have viewed 200,000 acts of violence—including16,000 murders—by the time they are 18 years of age (Media Education Foundation, 2005). According to another study (Curwin, 2006), 75 percent of 4th graders claimed to have watched an R-rated movie, 65 percent said they had played a violent video game, and 84 percent said they had witnessed at least one killing on television in the prior year.

A Sense of Entitlement

A sense of entitlement has gripped our culture. An informal study in *Newsweek* (Tyre, Scelfo, & Kantrowitz, 2004) found that children expect to nag their parents nine times before getting what they want. The net result is that too many students have a "me first" attitude: "Meet my needs first. I do not intend to wait. I come first." Unwittingly, many schools reinforce this sense of

entitlement through the proliferation of reward and bribe systems in which stickers, stars, and points become substitutes for doing the right thing because it is the right thing to do.

With just the push of a button, we can communicate with anyone anywhere in the world. We can download thousands of songs in seconds on our iPods, be entertained nonstop by DVDs that we start and stop at our command, and enter a virtual world doing almost anything instantly with amazing graphics. When students realize that *A*s and *B*s at school aren't just given but must be earned and that timely thought and study is at least sometimes required to master a concept, some become frustrated and angry at the audacity of an "unfair" teacher trying to hold them accountable in a world for which they have been poorly prepared.

Lack of a Secure Family Environment

Perhaps the largest single influence on children is the quality of their home life. Throughout the last century, our society has undergone major shifts in values and traditions. The extended family has been replaced by smaller nuclear units in a multitude of configurations. Single-parent families, two-working-parent families, two-mommy or -daddy parents, blended families, and one- and two-child families are likely to exist in just about every community. Amid constantly shifting family patterns, a discipline problem is often symptomatic of anxiety and insecurity.

The U.S. divorce rate has steadily risen so that some states have more divorces than marriages. It is not a secret that children of divorced parents perform worse than their peers in most academic settings (Crow & Ward-Lonergan, 2003). Although divorce is not necessarily a predictor of problems at school, children with divorced parents are more likely to be struggling with issues of emotional security than their classmates from more stable families. In 1970, 12 percent of children were born to unwed parents, compared with almost 35 percent more recently (Sigle-Rushton & McLanahan, 2002). Data from the National

Center for Health Statistics found that in 2004, more than 1.5 million babies were born to unwed mothers. Although the birthrate for teenagers 15 to 19 years old showed a recent modest decline of 2 percent in 2005 (Hamilton, Martin, & Ventura, 2006), it is still far too high.

Students are coming to school more concerned for their basic security needs than for learning. These security issues have created a large group of needy children seeking emotional support from just about anybody available.

Diminished Social Civility

When our political and civic leaders cannot discuss issues without pointing the finger of blame, calling each other names, and painting their opponent as evil, is it any wonder that children see name-calling and put-downs as acceptable methods of communication? When song lyrics sometimes include offensive language and use of hateful and unacceptable words like *nigger*, *faggot*, *wetback*, *Jew-down*, and *ho* is considered OK as long as you belong to a certain ethnic group, the boundaries of civility and decency have been ruptured. Good discipline is far more difficult when these boundaries are hard to identify.

Concentration of Poverty

Numerous studies over many years have shown a strong correlation between socioeconomic status and success in school. Generally speaking, students from wealthier families do significantly better than those from poorer families. In nearly every community across America, parents seek the best schools for their children. Although there are exceptions, the schools with the best reputations are almost always in upper-middle-class suburbia with a preponderance of white children. Although these schools are typically blessed with greater resources, just as many boring teachers work at these schools as at others. Could it be that these schools have a cultural expectation of success

bred by the vast majority of students who are from homes that strongly value the importance of educational achievement? Isn't it probable that the majority of students in these schools have parents who are themselves more likely to be highly educated and therefore successful in our culture? If lower-SES students tend to achieve more poorly than their wealthier peers, isn't it likely that when you put lots of these children together at the same school, a culture that does not value high achievement is more likely to emerge?

The "best schools" have a culture among their students where it is cool to be successful in school. In too many poorly performing schools, achievement is considered to be uncool or a sign of selling out. Top students often feel like they need to hide being smart.

On a recent visit with 11-year-old Victor, one of the authors' "little brothers" in the Big Brothers Big Sisters program, Victor spontaneously said that he would never want to go away to college because he wouldn't want to leave his family. When this very bright boy was asked if he knew anyone in his neighborhood who was going to college, Victor could not think of a single person. Sadly, he is one of many who face an uphill struggle to success because he has no community context for how education can really improve life. A recent discussion with one of the authors' friends makes a similar point. The friend, who lives in a small enclave of beautifully maintained homes within an otherwise decaying city, matter-of-factly noted that all the young families move out as soon as their children reach school age because they do not want to send their children to an urban school.

In a gang-infested middle school in San Jose, one of the authors interviewed several students who, when asked about their plans for the future, said, "Go to prison." When asked why, they responded, "That's how you get respect around here."

Radical solutions to this problem may be necessary. Perhaps the time has come to use socioeconomic status (or perhaps even race) to define school enrollment. We would like to see how

students perform in schools where no more that 20 percent of its students are on free and reduced lunch. Our speculation is that all schools should have approximately 10 to 20 percent of its population be of lower-SES status but no more. We believe that no school should open when its low-SES students exceed 20 percent unless geographically impossible. Exceptions would be in some rural areas in which great distances might make economic diversity unrealistic. Although problems are likely to arise that would need to be addressed, we would hypothesize sufficient diversity within such schools amid a culture that values school success.

Although there are few quick-fix solutions to the factors cited here, an impressive base of research strongly suggests that a caring, mentoring relationship often plays a huge role in contributing to the resiliency of at-risk youth (Ellis, Small-McGinley, & De Fabrizio, 1999; Werner & Smith, 1989). Educators get daily opportunities to offer students this type of nurturance that can dramatically impact student behavior and sometimes change lives.

In-School Causes of Discipline Problems and Some Solutions

Competitive Environment

Most schools remain highly competitive environments where students compete for recognition, grades, and spots on sports teams. It is important to realize that academic competition is very different from real-life competition. In life, people get a chance to compete in a field, profession, or industry of their own choice. If unsuccessful, they can switch to a different career or profession. By contrast, in school we drop all 7-year-olds in 2nd grade and say, “Go at it.” When some do not succeed, we begin labeling them as problem students. Competition is fine when playing on the football field or basketball court and when trying out for the school musical. When limited roles exist, competition is necessary to get the best people for the job. Competition

between people is fine when children know there is a chance they will not make the team or the show, but they want to try anyway.

With regard to academic achievement and behavioral improvement, replace the concept of competition *between* students with competition *within* each student. Whenever possible, evaluate student performance and offer assignments based on getting each student to be better today than he was yesterday. An individual's improvement is primarily what should be acknowledged. Conversely, if a student shows lesser performance than her capability, she should be challenged to do better even if her initial performance is best in the class.

One of the authors recently asked his 17-year-old sister if she had made honor roll. Looking surprised, she said, "What's honor roll?" When told it was a list you make when you get really good grades for a semester, her response was "At Brighton High School [a top 100 high school in America located in a suburb of Rochester, New York], everyone is expected to get good grades. We do not get on a list for that. And besides, why would I want to be on a list for doing well? It would just make my friends who didn't get on the list feel bad!" Although honor rolls are institutional fixtures at most schools, we believe their elimination would make schools better places. How about replacing competition between students for an "honor roll" spot with daily recognition for all students who are "on a roll"?

Student Boredom

Some students sit up straight, appear attentive by making eye contact, nod their heads every so often, and present themselves as interested and somewhat involved, even when they are downright bored. But there are others who show no desire to hide their boredom. They quietly withdraw into themselves and look unmotivated, or they act out, being unconcerned with the consequences of poor grades, a trip to the principal's office, a mark on the chalkboard, or a phone call home.

Powerlessness

Powerlessness is another factor in school and classroom discipline problems. Some students rebel as a way of voicing their dissatisfaction with their lack of influence. In most schools, students are told for six hours every day where to go, what time to be there, how long to take for basic biological necessities, which learning is relevant, what to learn, and how their learning will be evaluated. They are told the rules, the consequences, how to dress, how to walk, and when to talk. When one group (adults) develops rules and procedures that define behavioral standards for another group (students) that has had little or no input, a conflict of control and power can result. When school is unfulfilling, this lack of power can trigger anger and opposition.

Unclear Limits

Limit setting is very important to good discipline and improved behavior. Teachers and administrators need to be very clear and specific as to the behaviors they will and will not tolerate. In addition, we promote respect for and among our students when we explain why the limits are as they are. Although many educators intuitively know this, our busy lives too often preclude spending adequate time to address this issue.

Requiring Students to Earn Educational Opportunities

Most schools require that education opportunities be earned instead of given. These opportunities include field trips, pizza parties, playground privileges, and even staying in the classroom. The students who need these opportunities the most are the ones who rarely earn them. Because they feel left out, students tend to denigrate the opportunities denied them by calling the activities “stupid,” or worse. The good students get increased opportunities to learn social skills and to feel wanted, while the poor students rarely get the experience needed to improve behavior. Most just feel left out.

Lack of Acceptable Outlets to Express Feelings

Another source of discipline problems is the lack of acceptable outlets for expressing feelings (for both students and teachers). Students and teachers need to have acceptable ways to release emotions, thoughts, and feelings.

Attacks on Dignity

Finally, and most significant, many students with chronic behavior problems believe that they cannot and will not be successful in school. Such students often appear to give up before they have even tried. They do not believe they can receive the attention and recognition they need through school achievement. They see themselves as losers and have ceased trying to gain acceptance in the mainstream. Their self-message is "Since I can't be recognized as anything other than a failure, I'll protect myself from feeling hurt. To do nothing is better than to try and fail. And to be recognized as a troublemaker is better than being seen as stupid."

Schools Do Make a Difference: Discipline with Dignity

Discipline problems have existed for as long as schools. Any time a group of 25 to 30 people are in close proximity to each other for six hours every day, 10 months of the year, a variety of interpersonal conflicts occur. Discipline with Dignity offers a three-pronged approach to taking charge of such conflict.

- **Prevention**—what can be done to prevent problems from occurring?
- **Action**—what can be done when misbehavior occurs to solve the problem without making it worse?
- **Resolution**—what can be done for students who are chronically challenging?

Foundation of the Program

If we allow ourselves to become helpless in the face of the many causes of misbehavior, it becomes very difficult to teach. Discipline with Dignity is designed to help the teacher work effectively with children despite these numerous problems. The 12-step plan that follows is a guide for teachers. Each step represents specific things educators can do to ensure the success of their students, help prevent discipline problems, and intervene when disruption does occur.

1. Let students know what you need, and ask them what they need from you. Most teachers only do the first part. It is easy for us to tell them what we need. However, the best teachers also ask students what they need.

2. Differentiate instruction based on each student's strengths. If a student is acting out, assume that this is his defense against feeling like a failure because he cannot, or believes he cannot, handle the material. If you are unable or unwilling to adapt your teaching style to lower or higher academic levels based on the student's needs, then you should not be surprised when that student is disruptive.

Just as expectations that are too high lead to frustration, those that are too low lead to boredom and the feeling that success is cheap and not worthy of effort. When we make learning too easy, students find little value in it and little pride in their achievements. It is important to increase the challenge without increasing the tedium.

3. Listen to what students are thinking and feeling. There is probably no skill more important than active listening to defuse potentially troublesome situations. For example, Denise says, "Mrs. Lewis, this lesson is soooo boring. I hate it." A "button-pushed" response would be "Well, maybe if you paid more attention and did some work once in a while, you'd feel differently." A better response that defuses might be "I hear you, and I'm sorry you feel that way. Why not give me a suggestion or two that will help make it better? Please see me right after class."

4. Use humor. We are not paid to be comedians, nor should we be expected to come to class prepared with an arsenal of jokes. But many frustrating situations can be lightened by learning how to poke fun at ourselves and by avoiding defensiveness.

Make sure students are not the butt of your jokes. Bill, a 7th grade student obviously intent on hooking Ms. Johnson into a power struggle, announced one day in class as he looked squarely at his teacher, "You are a mother fu**er!" Ms. Johnson responded by looking at the student and saying, "Wow, at least you got it half right!" The class laughed, and a tense moment had abated. It is important to note that it is almost always better to give a consequence or otherwise more fully explore what to do about highly inappropriate behavior at a time that does not take away further from classroom instruction. We explore this issue in more depth in Chapters 6 and 8.

5. Vary your style of presentation. Older children have a maximum attention span of 15 minutes and younger children 10 minutes for any one style of presentation. If we lecture for 15 minutes, it helps to have a discussion for the next interval. If we have a large-group discussion, switch to small groups. Continually using the same approach will create inattentiveness and restlessness, which may lead to disruption.

6. Offer choices. Teachers and administrators need to constantly be looking for places during the school day to allow children to make decisions. For example: "You can do your assignment now or during recess." "You can borrow a pencil or buy one from me." "When people call you names you can tell them you don't like it, walk away, or ask me for a suggestion." Allowing students to make decisions and then live with the outcome of the decision goes a long way in teaching responsibility.

7. Refuse to accept excuses, and stop making them yourself. When students are allowed to explain away their misbehavior, you place yourself in the uncomfortable position of being judge and jury. Students with good excuses learn that a good excuse will avoid trouble. Students with bad excuses learn that they

need some practice in improving their excuse making. Either way, accepting excuses teaches students how to be irresponsible. If you consider certain excuses legitimate, try to include them as part of the rules so they are clearly stated before an incident occurs. It can be helpful to provide students with an explanation as to why certain excuses are considered legitimate while others are not.

Teachers should hold themselves accountable, too. For example, if the rule is that all students will turn in their homework within 24 hours, promise your students feedback within 24 hours or an automatic *A* if you are late. Holding ourselves accountable keeps us from making the same kinds of excuses we hate hearing from our students.

8. Legitimize misbehavior that you cannot stop. If you have done everything possible to stop a certain behavior and it continues, think of creative ways to legitimize it. If there are daily paper airplane flights buzzing past your ear, consider spending five minutes a day having paper airplane contests. If abusive language persists, ask the student to publicly define the offensive words to ensure understanding. If your students like to complain about one thing or another, have a gripe session or a suggestion box in which students are encouraged to deposit their complaints. If your school has chronic disruptions in study hall, then offer a game-filled, nonacademic study hall in addition to one that is quiet for those who really want to study. When misbehavior is legitimized within boundaries, the fun of acting out often fizzles.

9. Use a variety of ways to communicate with children. In addition to the spoken word, caring gestures and nonverbal messages can be effective. Some students do better when they get feedback on a sticky note, in an e-mailed note, or on a cell phone message. Since the original publication of this book, there have been numerous reports of inappropriate relationships between teachers and students. Although touch can be a very effective way to communicate caring, we understand that many educators

have become wary. Certainly, we need to be respectful of physical boundaries, and we must never touch a student when seduction or abuse is even a remote possibility. Although there is no substitute for good judgment, a pat on the back, touch on the shoulder, handshake, or high five can help form bonds with many tough-to-reach children.

10. Be responsible for yourself, and allow children to take responsibility for themselves. Teachers are responsible for coming to class on time, presenting their subject in as interesting a fashion as they can, returning papers with meaningful comments in a reasonable period of time, providing help for students having difficulty, and ending class on time. Students are responsible for bringing their books, pencils, and completed homework.

11. Realize that you will not reach every child, but act as if you can. Some students, after all is said and done, must be allowed to choose failure. However, there is a difference between reality (we won't reach everyone) and belief (we work each day as if today will be the breakthrough). It is important that we access and sustain optimism so that we can continually persist in making it difficult for our students to fail our class or themselves.

12. Start fresh every day. What happened yesterday is finished. Today is a new day. Act accordingly. Stop listening to negativity from other faculty members. Instead, make a point to have a positive attitude every time you step foot in the school building.

For the Administrator

The Safe School Study (U.S. Department of Health, Education, and Welfare, 1978), followed by more recent research (Postlethwaite & Ross, 1992; Rosen 2005), clearly indicates that administrators are extremely important in reducing discipline problems and maintaining a safe school. In these schools, many principals provided extra academic work for outstanding students and

encouraged students to challenge themselves. Administrators made special attempts to get children to take Advanced Placement classes. One principal even made himself available one hour per day as a tutor. Students were able to sign up for 15-minute blocks of time where he would work with them on academic concerns. Strong educational leadership had principals setting goals, evaluating performance, monitoring teachers and students, and modeling appropriate ways to behave and act (Blase & Kirby, 2000).

We suggest that the first step the administrator can take to improve discipline at school is to set up an atmosphere that encourages faculty members to discuss problems freely and openly, without fear of censure. Teachers often worry that they will be considered weak or incompetent if they admit to problems with student behavior. When we do staff development training, we usually ask the teachers who have discipline problems to raise their hands. Only one or two hands go up. But when we ask, "How many of you know another teacher in the school who has discipline problems?" every hand is raised. Once an open atmosphere exists, positive things can begin to happen. Also, it is important to encourage less experienced teachers to speak up. There is an unwritten code in most schools that says, "The more experience the better." This statement is partially true. But we have found that veteran teachers and administrators can learn as much, if not more, from less experienced educators.

We find that most school faculties represent a wide range of feelings, beliefs, and attitudes when it comes to discipline. Some teachers support having many rules, strictly enforced, with the administration being tough in every case with student violators. Other teachers feel that it is best to have few rules, with an emphasis on students solving their own problems. Effective school discipline requires a common vision predicated on what is best for students. We need to challenge our teachers and encourage them to challenge each other to clearly articulate how their beliefs and practices are in our students' best interests.

To help focus discussion, begin with the list of in-school causes of misbehavior described earlier. Set up working groups or task forces on each of the following causes: competitive environments, student boredom, powerlessness, unclear limits, lack of acceptable outlets for expressing feelings, and attacks on dignity. Each group should include teachers, administrators, parents, and students (both high- and low-achieving). Then have them develop a specific plan for your school to address each area. You will get differing opinions and thoughts. Arguments will occasionally erupt. But remember, if we always do what's best for children, the decision will become clearer.

A group in a suburban middle school tackled the issue of giving students a greater sense of control over what happens in their school by involving them in the following ways:

- A student council of "poor achievers" and "in-trouble students" (different labels were used) was created to help set school policy and to help modify rules and consequences.
- Students who served detention were given the job of commenting on how school climate could be improved.
- Students took the job of running the school for a day once a year, with the teachers and administrators taking student roles.
- Each class was required to have at least two student rules for the teacher.

Committees such as the ones suggested here are most beneficial when they are expected to develop a specific plan for action. The plan should state what will be done, who will do it, when it will be done, and how it will be evaluated. Each member of the school community (teachers, parents, administrators, students, librarians, nurses, bus drivers, and other staff) should know clearly and specifically what his or her responsibilities will be for the success of the plan. Strive for at least 75 percent agreement on any aspect of the plan before it is implemented unless the committee was given authority to develop binding recommendations.

Finally, encourage your staff members to use the practice scenarios in Appendix A as a way of generating meaningful discussion as well as providing staff with practical ways of handling challenging situations.

Discipline with Dignity details an affirming approach to managing the classroom that promotes respect for self and others. This completely updated 3rd edition offers practical solutions that emphasize relationship building, curriculum relevance, and academic success. The emphasis is on preventing problems by helping students to understand each other, work well together, and develop responsibility for their own actions, but the authors also include intervention strategies for handling common and severe problems in dignified ways.

Filled with real-life examples and authentic teacher-student dialogues, *Discipline with Dignity* is a comprehensive and flexible system of prevention and intervention tools that shows how educators at all levels can

- Be fair without necessarily treating every student the same way.
- Customize the classroom to reflect today's highly diverse and inclusive student population.
- Seek students' help in creating values-based rules and appropriate consequences.
- Use humor appropriately and effectively to respond to abusive language.
- Fine-tune strategies to resolve issues with chronically misbehaving students and "ringleaders" or bullies.

This book is not simply a compendium of strategies for dealing with bad behavior. It is a guide to helping students see themselves in a different way, to changing the way they interact with the world. The strategies innate to this approach help students make informed choices to behave well. When they do, they become more attuned to learning and to understanding how to use what they learn to improve their lives and the lives of others—with dignity.

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A Glossary of Education Terms,
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DIANE RAVITCH



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For Mary

EdSpeak: A Glossary of Education Terms, Phrases, Buzzwords, and Jargon

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Preface

Every profession has its own language. Law, medicine, science, business, economics, psychology, sociology—each of these fields has evolved a specialized vocabulary that its members use to communicate with one another. Perhaps this language is necessary to discuss sophisticated ideas that are beyond the understanding of the average citizen; perhaps not. The result, if not the intent, is to mystify the public.

Education is no exception. Like those of other professions, the language of education is often incomprehensible to those outside the field. But more than other professions, education should strive to be intelligible to nonprofessionals. Educators must be able to speak clearly and intelligibly to all those who care about what happens in classrooms. It matters not only for the well-being of students but also for the well-being of public education. Parents and citizens who are likely to vote on bond issues or to serve on local school boards need to understand the language of education, just as newcomers to and even veterans in the profession do.

I first encountered the strange tongue of education many years ago, when I started my graduate studies at Teachers College, Columbia University. Everyone, it seemed, understood the meaning of these unfamiliar words except me. I thought I would never be able to master this vocabulary because new terms were constantly popping up. Because I had been a journalist before I went to graduate school, I had a yearning to demystify what I

learned. When I wrote books and articles, I purposely avoided jargon and buzzwords and tried to write in plain English for the larger public.

EdSpeak is my attempt to explain in everyday language the esoteric terms, expressions, and buzzwords used in U.S. education today. Some of these terms are multisyllabic replacements for simple, easily understood words; others describe government programs or the arcane technology of testing. I also added biographies of a few key figures who shaped the philosophy and practice of education, with only one proviso: no biographies of living persons. I decided to prepare this glossary so that others—be they parents, aspiring professionals, administrators, teachers, or just regular readers—would not be puzzled when they heard an unfamiliar term from a member of the profession.

Clearly, I am not alone in my desire to explain what the jargon means: in recent years, the *New York Times*, the *Washington Post*, and the *Los Angeles Times* have all published articles about the exotic and mysterious language spoken by educators. There is even an online education jargon generator (www.sciencegeek.net/lingo.html) that invites visitors to "amaze your colleagues with finely crafted phrases of educational nonsense!" A recent visit to the Web site reaped the following expressions: "leverage school-to-work learning styles," "target open-ended life-long learning," and "enable developmentally appropriate units." A reader might actually encounter some of these phrases in a pedagogical journal without knowing what they mean. Sometimes, I am sorry to say, such expressions are simply long-winded ways of sounding impressive without saying anything at all.

All this pedagogese has a relatively long pedigree: educators first began to use specialized terms at the beginning of the 20th century. At that time, the new profession of education psychology was attempting to make a science of education practice and, accordingly, began creating specialized, scientific-sounding terms. For many years, psychologists wrote and spoke about "laws of learning," for example, which were supposed to be immutable but are now forgotten. In the 1920s, pedagogues created a new vocabulary to describe child-centered learning, individualized instruction, and romantic views of the child; many of these terms have survived to this day, still sounding newly minted after almost a century of usage. In fact, media reports abound about new schools that embody policies—such as no tests, no textbooks, or no predetermined curriculum—that were hailed as

innovative more than 100 years ago! Still more terminology was added by psychologists of education, who thought that their tests would make schooling a rational enterprise, and by sociologists of education, who saw the schools as a means to shape children to assume their foreordained roles in society. More recently, school language has been broadened by litigation about desegregation, adequacy, and equity. Even more terms have been added to the education glossary because of federal legislation, testing, and new currents in pedagogy.

My principal concern while writing this glossary was that I would leave out important terms, although this is somewhat inevitable, seeing as new terms seem to emerge almost magically on a daily basis. Almost every day, I come across another word or term that probably should have been added but has not yet achieved wide usage. It is also very likely—indeed, certain—that some words or phrases in this glossary will become obsolete, such as those that refer to federal programs that may or may not be renewed. Thus, I invite readers to submit new terms, as well as any current ones that I may have missed. I hope to update this book periodically, and I have no doubt that future editions will reflect this evolving language.

In a work of this kind, there are inevitably debts to fellow scholars. I owe an enormous debt to Robert D. Shepherd, who shared his vast knowledge of education terminology with me. I also thank the following people, who have suggested words or given me definitions of specialized terms: Williamson Evers, Chester E. Finn Jr., Eric Hanushek, E. D. Hirsch Jr., Deborah Meier, and Herbert Walberg. In addition, I thank Rita Kramer and J. Wesley Null for having read the entire manuscript and offering helpful suggestions.

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I thank the Association for Supervision and Curriculum Development for publishing the glossary. My thanks go to Mary Butz for connecting me to Mary Ellen Freeley of ASCD, who in turn introduced me to Agnes Crawford, who embraced the concept of this glossary. I owe special thanks to Nancy Modrak, director of publications at ASCD, who enthusiastically supported the book. I

was very lucky to have Miriam Goldstein as editor; she has been a considerate, careful, and attentive editor of what is surely a non-traditional manuscript.

Diane Ravitch
Brooklyn, New York



abecedarian: A student who is first learning the alphabet, usually a young child. This term was commonly used in the 17th century to refer to the youngest learners. It has also been adopted by a preschool program for low-income children in Chapel Hill, North Carolina, called the Abecedarian Early Childhood Intervention Project.

ability: Competence in doing something, either mental or physical. Psychometricians (experts in the design and analysis of tests) often contrast ability, which denotes whatever an individual is *currently* able to do, with aptitude, which refers to what an individual is *potentially* able to do.

ability grouping: The practice of assigning students to classes on the basis of their past achievement or presumed ability to learn. In schools that use ability grouping, low-performing students will be in one class, high-performing students in another, and average-performing students in yet another. This grouping by ability is called *homogeneous grouping*, whereas the practice of mixing students of different abilities in the same class is called *heterogeneous grouping*. Some schools group students by ability in certain subjects, like mathematics, but not in others, like social

studies or English. Researchers disagree about whether ability grouping is beneficial. Advocates say that a certain amount of grouping is not only inevitable but also better for students. Many teachers find it daunting to teach classes with a wide range of ability because they must worry about boring students at the high end of ability while moving too rapidly for students at the other extreme. Critics of ability grouping contend that those placed in lower tracks encounter low expectations and are not sufficiently challenged. They also say that in most subject areas, students with lower or higher skills have much to learn from one another. See also **homogeneous grouping; tracking**. Contrast **detracking; heterogeneous grouping**.

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abstinence education: An educational program premised on the view that family life and sex education courses should teach students that sexual intercourse is inappropriate for young, unmarried people. Advocates say that adults must communicate an unambiguous message that sex outside marriage is dangerous because of the risks of unwanted pregnancy and sexually transmitted diseases, such as AIDS. Critics of abstinence-only programs say the programs ignore the reality of widespread sexual activity among teenagers and deprive teens of information they need to protect themselves physically and emotionally.

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academic achievement: The relative success of students in learning and mastering the school subjects that they study, as measured by tests of the knowledge and skills that were taught. Some educators believe that academic achievement should include a broader sample of performances than just test scores.

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academic freedom: The freedom of educators to teach and to conduct research without fear of political reprisal, as well as the freedom of students to learn without fear of indoctrination or intimidation. Academic freedom for scholars involves both rights and responsibilities. Professors who assert their rights and freedoms have a responsibility to base their conclusions on competent scholarship and to present them in a dignified manner. Although they may express their own opinions, they are duty-bound to set forth the contrasting opinions of other scholars and to introduce their students to the best published sources on the topics at issue. In other words, professors may express their own

views, but they must do so in a spirit of impartial scholarly inquiry, without imposing them on their students. Correlatively, students have the right to study under the guidance of qualified and unbiased faculty and to express their views without fear of any form of retribution.

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academic press: The quality of the school environment—incorporating policies, practices, norms, and rewards—that produces high student achievement. A school with the right amount of academic press will have high but reasonable expectations for students, encouraging them to study and apply themselves to their schoolwork. Too much academic press and students will complain about the pressure; too little, and students will ignore their studies.

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accelerated classes: Advanced classes in which highly motivated students study subjects and topics that are beyond their grade level. The term is also used to refer to intensive remedial classes intended to bring over-age, low-performing students up to their grade level. It is symptomatic of the education field's tendency toward euphemism that the same term is used to describe classes for students at both extremes of ability.

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accelerated schools: A school reform in which all students in a school are given the enriched and challenging instruction ordinarily given only to gifted and talented students. Henry Levin of Stanford University (subsequently of Teachers College, Columbia University) designed a program called the Accelerated Schools Project to incorporate this approach; it was adopted in hundreds of schools across the United States. Its purpose was to improve education in urban schools serving many students designated as at risk of failure. Levin held that these schools' customary focus on remediation and basic skills depressed achievement and that students would make greater progress if exposed to the methods and topics usually reserved for gifted students.

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accessing skills: The skills to seek and find information on the Internet, often taught in school.

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accommodations: Changes in the design or administration of tests in response to the special needs of students with disabilities

or students who are learning English. The term generally refers to changes that do not substantially alter what the test measures. The goal is to give all students equal opportunity to demonstrate their knowledge. Typical accommodations include allowing a student to take more time on a test, to take a test with no time limits, to receive large-print test booklets, to have part or all of a test read aloud, to use a computer to answer test questions, to have access to a scribe to write down the student's answers, to use Braille forms of the assessment, or to have access during the test to an English language dictionary.

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accountability: The concept that individuals (e.g., students, teachers, or administrators) or organizations (e.g., schools, school districts, or state departments of education) should be held responsible for improving student achievement and should be either rewarded for their success or sanctioned for their lack of success in doing so. In education, accountability requires measurable proof that teachers, schools, districts, and states are teaching students efficiently and well. Usually this proof takes the form of student success rates on various tests. In recent years, most accountability programs have been based on state curriculum standards and state tests derived from those standards. Other accountability measures include student dropout rates, graduation rates, college entrance rates, samples of student work, and longitudinal studies of former students. Some critics of current accountability schemes advocate testing samples of schools rather than testing all students.

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accountable talk: Talk by students about what they are learning, supported by evidence from the discipline of study (for example, documentary sources in history or proofs in mathematics). This pedagogical approach, designed by University of Pittsburgh researcher Lauren Resnick, is intended to encourage students to take responsibility for their own learning by discussing lessons with their peers and demonstrating that they can use knowledge appropriately.

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accreditation: Official recognition that an individual or institution meets required standards. Accreditation of teachers is usually referred to as *licensing* or *certification*. Schools are accredited in two ways: by voluntary regional accrediting associations (such

as the North Central Association Commission on Accreditation and School Improvement) and by state governments, which are legally responsible for public education. Most high schools seek and receive accreditation from their regional associations so that their graduates will be accepted by institutions of higher education. In recent years, some states have begun to withdraw state accreditation from schools with unacceptably low scores on state tests. Accreditation also refers to the process of certifying that institutions of higher education meet certain standards in relation to such matters as the qualifications of their faculty, the condition of their facilities, and the appropriateness of their curriculum. Most schools of education are accredited by either the National Council for Accreditation of Teacher Education or the Teacher Education Accreditation Council.

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achievement: Accomplishment; the mastery of a skill or of knowledge as a consequence of the individual's effort, training, and practice.

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achievement/ability comparison (AAC): The relationship between an individual's score on an achievement test and the scores of other students of similar ability (as measured by an ability test) on that same achievement test. If a given student's achievement test score is higher than those of students of similar ability, the AAC is said to be high; if the achievement score is about the same as the scores of similar-ability students, the AAC is middle; and if the student's score is lower, his or her AAC is low. The term assumes that one can accurately distinguish between *achievement* and *ability*.

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achievement gap: Persistent differences in achievement among different groups of students as indicated by scores on standardized tests, grades, levels of educational attainment, graduation rates, and other data; also known as the *test-score gap*. Achievement on each of these measures strongly correlates with the socioeconomic status of a student's parents, especially their income and education. Race and ethnicity are also correlated with socioeconomic status. The achievement gap most frequently referred to in the United States is that between whites and Asian Americans on the one hand, and African Americans and Hispanics on the other. Needless to say, not all whites and

Asian Americans are high academic performers, and not all African Americans and Hispanics are low academic performers. Many researchers believe that a significant part of the gap may be attributed to poverty, high mobility rates, and low expectations. Narrowing or closing this gap is one of the rationales for standards-based reform, which aims to ensure that additional attention is paid to low-performing students and that expectations are similar for all students.

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achievement levels: Performance levels that describe how well students did on a given test. The achievement levels on the federally sponsored National Assessment of Educational Progress are "basic" (partial mastery); "proficient" (solid academic performance); and "advanced" (superior performance). Students who perform poorly are rated as "below basic." These achievement levels and variations of them have been adopted by many states to describe levels of student performance on state exams. Achievement levels are established by panels of educators and other informed citizens who make a judgment about what students should know and be able to do at different grade levels. See also **advanced; basic; proficient**.

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achievement tests: Assessments designed to measure knowledge and skills. An achievement test may assess general knowledge and skills or those related to particular school subjects. Norm-referenced multiple-choice tests, such as the Iowa Tests of Basic Skills, are intended to measure students' achievement in basic academic subjects. School officials use the test results to compare the scores of individual students and schools with those of others in the region, across the state, and throughout the United States.

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acquisition-learning hypothesis: A theory that there are two ways to describe the learning of language. One way is subconscious acquisition, which is how infants learn their native language. The other is learning through instruction and study, which is the typical approach found in schools. Many teachers of foreign language now prefer the subconscious acquisition approach, which attempts to approximate living in a foreign country and being immersed in the use of the new language. See also **immersion**.

ACT: A set of college admissions tests and the organization that makes them, located in Iowa City, Iowa. The ACT is one of the two commonly used tests (the other is the SAT) designed to assess high school students' general educational development and their ability to complete college-level work. Although ACT originally stood for American College Testing, the organization shortened its official name to ACT in 1996 to reflect its broader scope. The ACT covers four skill areas: English, mathematics, reading, and science reasoning. Most colleges now accept either the SAT or the ACT for admissions purposes. More than 1 million college-bound high school students take the ACT each year. See also **SAT**.

action reflection process: A structured discussion held during regular teacher meetings in which participants focus on a limited topic. Leaders of the discussion may begin with a provocative statement or video, which is called an *action reflection tool*. The action reflection process was created by the Education Development Center of Newton, Massachusetts.

action research: The systematic investigation by teachers of some aspect of their work to help them improve their effectiveness. Action research requires that the participants identify a question or problem and then collect and analyze relevant data. It differs from conventional research in that the participants study an aspect of their own work in the classroom and intend to use the results themselves. For example, a teacher might decide to give students different assignments according to their assessed learning styles. If the teacher maintained records comparing student work before and after the change, he or she would be doing action research. If several educators worked together on such a project, this would be considered *collaborative action research*. Because of the personal interest of those who carry out action research, the results do not necessarily have credibility and are seldom generalized to other classrooms and schools.

active learning: Any situation in which students learn by doing rather than by sitting at their desks reading, filling out worksheets, or listening to a teacher. Active learning is based on the premise that if students are active, they will be highly motivated and will thus learn more. Some educators believe that the term refers to activities outside school, such as voluntary

community service, or such in-school activities as role playing or conducting a mock trial. Others say that acting out a Shakespeare play in the classroom is active learning, and still others insist that reading a book or solving a mathematics problem is also active learning that requires the student's close attention.

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active reading: A set of pedagogical strategies intended to get students involved in thinking about what they are reading. Active reading may involve any of a wide range of activities, such as underlining, outlining, predicting, summarizing, paraphrasing, connecting the reading to one's own experiences, visualizing, or asking questions about the content of the reading material.

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additive bilingualism: A description of a bilingual program in which students gain proficiency in a new language while continuing to develop proficiency in their first language. The expectation is that students are not losing their first language but adding a second language. Contrast **subtractive bilingualism**.

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adequacy: An approach to school funding that begins with the premise that the amount of funding schools receive should be based on some estimate of the cost of achieving the state's educational goals. This approach attempts to answer two questions: how much money would be enough to achieve those goals, and where would it be best spent? The concept of adequacy has been employed in litigation in a number of states where advocates of greater school funding argue that even if spending is equitable across districts, it is insufficient to ensure that all students reach the state's achievement standards. Determination of adequate levels of spending is frequently left to consultants who are hired by interested parties to estimate the "cost" of providing an adequate education. The ultimate decision about adequacy is rendered by courts and legislatures.

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adequate yearly progress (AYP): An individual state's measure of yearly progress toward achieving state academic standards, as described in the No Child Left Behind (NCLB) legislation. Adequate yearly progress is the minimum level of improvement that states, school districts, and schools must achieve each year, as negotiated with the U.S. Department of Education. This progress is determined by a collection of performance measures that a

state, its school districts, and subpopulations of students within its schools are supposed to meet if the state receives Title I, Part A, federal funding. The measures may include (1) specified percentages of students scoring "proficient" or "advanced" on state tests in English language arts and math; (2) participation of at least 95 percent of students in those tests; (3) specified Academic Performance Index scores or gains; and (4) for high schools, a specified graduation rate or improvement in the graduation rate. Student test scores must be disaggregated by gender, minority status, and eligibility for free or reduced-price lunch (a measure of poverty). According to NCLB, all public schools must reach universal proficiency in reading and math by the 2013–2014 school year. Critics doubt that a goal of 100 percent proficiency is feasible unless "proficiency" is redefined as something akin to functional literacy. See also **No Child Left Behind Act (NCLB)**.

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ad hoc committee: A committee that is formed to complete a specific task, file a report, and then disband. The Latin phrase *ad hoc* means "for this" and, as commonly used, means "for a specific purpose."

Adler, Mortimer J. (1902–2001): A philosopher and author who dedicated himself to popularizing the great books and great ideas of Western civilization. A high school dropout, Adler took night classes at Columbia University, where he fell in love with philosophy. He failed to receive a bachelor's degree because he did not complete his physical education requirement, but he eventually earned a doctorate in philosophy, thus becoming possibly the first person to receive a doctorate without having first obtained either a high school diploma or a bachelor's degree. In 1930, he joined the faculty at the University of Chicago, where he teamed up with its president, Robert Maynard Hutchins, to promote the "Great Books" of the Western canon. In response, large numbers of people formed clubs to read and discuss the books designated by Hutchins and Adler as the touchstones of Western thought. Because of his devotion to perennial truths, Adler crossed swords with progressive educators in the 1930s. Over the course of his long life, he wrote dozens of books. For many years, he served as chair of the editorial board of *Encyclopædia Britannica*. In the early 1980s, hoping to promote serious reading and discussion in schools, Adler developed the Paideia Program, which emphasized coaching, seminars, and didactic

instruction. See also **Great Books program; Hutchins, Robert Maynard (1899–1977); Paideia Program**.

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adult education: Classes offered by school districts, community colleges, and other public and private organizations for people 18 years or older who are not enrolled in a traditional education institution. Such classes may or may not offer credit toward a degree. See also **continuing education**.

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advanced: One of three achievement levels on the federally funded National Assessment of Educational Progress and on many state tests. *Advanced* represents superior academic performance. See also **achievement levels; basic; proficient**.

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advanced placement (AP) courses: College-level courses offered by high schools to students who are above average in academic standing. Each course has a well-defined syllabus and an examination. Most colleges award college credit to students who pass one of the nationally standardized AP tests. Passing AP tests can save students time and tuition for entry-level college courses. The College Board, which administers the AP program, offers AP courses and examinations in many subject areas, including biology, calculus, and U.S. history. Examinations are graded on a five-point scale, 5 being the highest possible score. Students earn college credit by achieving a satisfactory score on an AP exam, usually a 3 or better. Many college admission officials favor students who have completed AP coursework and have passed the exams.

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adverse reflection: A term found in California's "social content guidelines" to describe language that is critical of an individual or a group or that tends to ridicule, demean, or caricature an individual or a group. California will not endorse textbooks or other materials for use in its schools if they contain language that any group considers to contain adverse reflection. Sometimes historical fact creates an adverse reflection when it truthfully shows past behavior or cultural beliefs of groups that are contrary to contemporary standards. See also **social content guidelines**.

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advisory: Organized daily meetings of one adult and a small group of students in middle school or high school. The adult,

usually a teacher, gets to know all the students and gives them advice and acts as their advocate in the school. The advisory is designed to help students make wise choices in their academic and social lives and is expected to improve communication between home and school. Held during the school day, the advisory has taken on the function that was once assigned to the homeroom. See also **homeroom**.

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affective education: Schooling that helps students deal with their emotions and values. This term is used to distinguish such schooling from *cognitive education*, which refers to academic knowledge and studies. Some would argue that the two are actually intertwined and that affective education increases students' readiness to learn by addressing their emotional problems.

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affective filter: An emotional block in the student's mind that some researchers claim prevents learning. According to these researchers, teachers should do whatever they can to lower students' anxiety levels, increase their comfort levels, and raise their self-esteem so as to lower the affective filter and improve students' motivation to learn. Other researchers believe that a certain level of academic pressure is necessary to motivate students to learn.

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affective objective: An instructional objective related to students' emotions, feelings, or values, indicated by such words as *interest*, *appreciation*, *enthusiasm*, *motivation*, and *attitudes*. Contrast **cognitive objective**.

Afrocentric education: A program based on the belief that students who are of African ancestry should have an education that is centered on the study of Africa. Advocates of this approach believe that studying the history, culture, and achievements of Africans will raise the self-esteem of African American students. Critics contend that such a restricted education will undermine the ability of these students to live in a diverse society and will set a divisive precedent for students of other ancestry groups. See also **Eurocentrism**.

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after-school programs: Activities that take place after the official end of the school day, typically sponsored by the school, the

school district, or community organizations. After-school programs include athletics, dramatic groups, technology education, art and music, and academic assistance activities. Due to the large increase in the number of working mothers in recent years, many children have no supervision between the hours of 3:00 and 6:00 p.m. Accordingly, many school districts and reformers have sought to increase the availability of after-school programs to make sure that children are in safe and stimulating environments during that time. The federal No Child Left Behind Act allocated $1 billion in funding for after-school programs (called 21st Century Community Learning Centers).

A–G curriculum: A four-year sequence of high school courses in California designed to prepare all students for higher education or the modern workplace. The curriculum includes such core subjects as English, mathematics, history, laboratory science, and a foreign language.

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aha moment: The point at which a student suddenly understands what the teacher has been trying to get across. Some teachers describe the moment as a lightbulb going off in students' heads when they get the point of what they are learning. Adults also have aha moments, when they experience a flash of intuition that enables them to make decisions about their lives. Scientists refer to this sudden insight as the *eureka moment*.

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algorithm: A systematic, step-by-step procedure for solving problems, especially mathematical problems. So, for example, if a student used addition, subtraction, division, or multiplication to solve a mathematical problem, he or she would be applying an algorithm. Many advocates of new approaches to teaching mathematics believe that students should seek multiple answers to mathematical questions rather than "right" answers and that the process of figuring out a solution is more valuable to students than learning a standard procedure that produces a right answer. Proponents of these new approaches also contend that calculators can solve algorithm problems faster than students can on their own, so students should use calculators in the classroom instead of relying on paper and pencil or solving problems "in their head." Advocates of traditional methods of teaching mathematics defend the teaching of algorithms and object to the use of

calculators in the elementary grades. They contend that algorithms will always be valuable, that they must become habitual to be effective, and that many—perhaps most—mathematical questions do have right and wrong answers. They maintain that it is impossible for students to become creative solvers of mathematical problems until they have mastered the algorithms of mathematics and made their application automatic. Mastery of traditional algorithms, they say, is the surest path to long-term mathematical competency.

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alignment: The degree to which curriculum, instruction, textbooks and other instructional materials, assessments, teacher preparation and professional development, and systems of accountability all reflect and reinforce the educational program's objectives and standards. The goal of alignment is to ensure that all the parts of the education system are working in concert to support student learning. The curriculum defines what is to be taught; textbooks and instructional materials contain the major lessons described in the curriculum; teacher education prepares teachers who have mastered what students are supposed to learn; professional development helps teachers extend their knowledge of the curriculum and their skill in communicating lessons to students; and assessments gauge what students were taught.

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alignment-based reform: The effort to coordinate standards, teacher education, curriculum, instruction, testing, and accountability. In an aligned education system, the curriculum describes what students are expected to know and be able to do; teacher education programs produce teachers who know how to teach what students are expected to learn; teachers base their daily lessons on the course curriculum; textbooks teach what students are expected to learn; tests are based on the curriculum; and accountability systems report whether students are meeting the standards. Critics of alignment-based reform claim that such efforts are likely to exclude topics that appeal to particular students at particular moments in time.

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alphabet: The 26 letters that make up the English language, beginning with *A* and ending with *Z*; also known as *the ABCs*. These letters are the building blocks of written words. In the 1840s, Horace Mann, known as the father of American public

education, opposed the alphabet method of teaching reading, which required students to memorize the letters and combine them into words. He described the letters of the alphabet as "skeleton-shaped, bloodless, ghostly apparitions" that terrified children. In the 1960s, however, the Harvard reading researcher Jeanne Chall concluded after exhaustive research that knowledge of letters and their sounds is an essential first step in learning to read. See also **phoneme; phonics; whole language**.

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alternate-route teacher: A teacher who has successfully completed an alternate certification process that permits qualified individuals lacking pedagogical credentials to earn them while teaching in the public schools, usually in a mentoring program. Such a program allows people to enter teaching after they have worked in other careers or to enter teaching without obtaining a degree in education.

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alternative assessments: Tests of achievement or aptitude that do not rely on paper-and-pencil, multiple-choice, true/false, or short-answer questions to determine what students are learning and where they need help. Examples of alternative assessments include developing a special report or project, creating a portfolio (a collection of work), or performing a demonstration that exhibits one's knowledge and skills, the equivalent of a road test for drivers.

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alternative certification: A license to teach acquired through a nontraditional route. Customarily, prospective teachers are expected to earn specific education credits or degrees in education to gain state certification. Alternative certification developed in the 1980s and 1990s as a way for individuals to become teachers without having to complete an undergraduate or graduate program in teacher education. Alternative certification takes into account an individual's background and experience and usually requires the candidate to pass a test and to receive some professional training in the first years of teaching. Alternative certification is most common in urban school systems that have difficulty hiring enough regularly qualified teachers. For example, Teach for America recruits recent college graduates to teach for two years in urban schools. Advocates claim that such programs provide a way for bright, idealistic young people to make a needed and worthy contribution. Critics contend that teaching

requires extensive preparation to gain knowledge of child development and pedagogy and that such shortcuts undermine efforts to make teaching a true profession. See also **certified employees; teacher certification**.

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alternative instruction room: A room where school officials send students who have misbehaved in school, usually for a few hours or days. See also **detention; reflection room**.

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alternatively abled: A term denoting people with various handicapping conditions, coined to avoid use of words like *disabled* and *handicapped*. This euphemism is used in the social content guidelines of the state of California. See also **social content guidelines**.

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alternative schools: Schools that serve students who have been unsuccessful in regular public schools or who have been expelled from regular public schools because of their misbehavior. Alternative schools are usually high schools; they are generally smaller and more personalized than regular public schools and are supposed to offer individualized programs and social services. They may operate under different governing principles than conventional schools and may be run by nonprofit or for-profit organizations other than local school boards.

American Diploma Project: A program intended to prepare high school graduates for college and work. Many states have joined the project and agreed to align their standards, curricula, assessments, and graduation requirements with the expectations of higher education and employers. The project was established by Achieve, the Thomas B. Fordham Foundation, and the Education Trust.

American Federation of Teachers (AFT): One of the two major national teacher unions (the other is the National Education Association). Founded in 1916, the AFT represents about 1.3 million teachers, school support staff, higher education faculty and staff, health care employees, and state and municipal employees. The AFT is affiliated with the AFL-CIO.

America's Choice: A school reform program created by Marc Tucker and the National Center on Education and the Economy,

based on study of schooling in other nations. This whole-school redesign is based on the idea that instruction, assessment, teacher training, and professional development should be aligned with curricular standards. Several hundred schools in the United States have adopted this reform model.

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a mile wide and an inch deep: A characterization of the mathematics curriculum in the United States, usually attributed to William Schmidt of Michigan State University. The phrase is often applied to any curriculum or course of study that covers so much material that it is too broad and too superficial for students to comprehend and remember what they have studied. See also **coverage**.

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analysis chart: A graphic displaying the parts of something that may or may not show relations among those parts and between individual parts and the whole. For example, a student might make an analysis chart prior to writing a character sketch by creating rows or columns labeled Background, Relations with Others, Personality, Appearance, Education, and Social Class and then filling in each part. A particular type of analysis chart often used in writing classes is the *sensory details chart*, which contains rows or columns labeled Sight, Sound, Taste, Smell, and Touch. A student might create such a chart to gather details before writing a descriptive piece about an interesting locale that he or she has visited—for example, the Brooklyn Bridge or Venice Beach.

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anecdotal notes: A teacher's description of student behavior and progress based on classroom observation, or a supervisor's description of teacher performance in the classroom.

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annual measurable objective (AMO): A measurement used to determine compliance with the federal No Child Left Behind Act. The law requires states to develop annual measurable objectives that will determine whether a school, a district, or the state as a whole is making adequate yearly progress toward the goal of having all students proficient in English language arts and mathematics by 2014. Critics believe that this goal is impossible to meet.

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application: The practical use of school-learned knowledge and skills in the "real world."

apportionments: Funds that federal or state governments distribute to Local Education Agencies or other government units according to certain formulas.

aptitude: Characteristics, whether native or acquired, that indicate an individual's ability to learn or to develop proficiency in some particular area, if given appropriate education or training.

aptitude tests: Assessments that measure general academic (scholastic) ability, like the SAT; special abilities (e.g., verbal, numerical, mechanical, or musical); or "readiness" for learning. Aptitude tests may measure previous learning and be used to predict future performance, usually in a specific field, such as a foreign language, shorthand, or nursing. In general, tests of aptitude predict whether students are likely to learn certain things, as opposed to achievement tests, which measure what they have already learned. The differences between aptitude tests and achievement tests are not always clear-cut.

articulation: The attempt to create a seamless transition from one part of the education system to the next—for example, from middle school to high school or from high school to university—especially with regard to the curriculum.

assessment: A test. An assessment may be part of a system for testing and evaluating individual students, groups of students, schools, or districts. Different types of assessment instruments include achievement tests, minimum competency tests, developmental screening tests, aptitude tests, observation instruments, performance tasks, and authentic assessments. Assessments may contain questions in any of a number of formats. Common formats for standardized tests include multiple-choice, short response, and open-ended response. See also **test**.

assessment-driven: A description of curriculum content and teaching practices that are based on assessments used for accountability purposes. Educators who provide assessment-driven instruction start with the assessment and then figure out what students need to know and be able to do to be prepared for the assessment. Some would argue that ideally, the assessment

should be based on curriculum standards developed by the district, the state, or even federal authorities, but when those standards are vague or nonexistent, teachers study the assessment itself, which has an implicit curriculum.

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assistive technology (AT): Any technological device or product —hardware or software—that is used to increase, maintain, or improve the functional capabilities of individuals with disabilities.

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at-risk students: Students who are in danger of failing in school and becoming academically disadvantaged in comparison with their peers. They may be labeled "at risk" on the basis of such information as test scores, attendance, and discipline records. Students at risk have a higher-than-average probability of dropping out of school. A disproportionate number of at-risk students are homeless or come from low-income, inner-city homes; are not fluent in English; or have special needs and emotional or behavioral difficulties. Substance abuse, juvenile crime, poverty, and lack of adult support all contribute to placing students at risk of failure. Most school districts have programs and specially designed schools (e.g., alternative schools, magnet schools, theme schools) to address the needs of these youngsters.

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attention deficit disorder (ADD): A condition that interferes with a person's ability to concentrate and control impulses and behavior. Students diagnosed with ADD tend to have problems getting started on tasks (and staying on them) and focusing on conversations or activities; they may be disorganized, impulsive, easily distracted, fidgety, and restless. They may also find it difficult to use their short-term working memory and access recall and to manage their emotions appropriately. Attention deficit hyperactivity disorder (AD/HD) describes a condition that interferes with a person's ability to regulate activity level, inhibit behavior, and attend to tasks in developmentally appropriate ways. People with AD/HD may move rapidly from one task to another without completing any of them. Hyperactivity, a disorder of the central nervous system, also makes it difficult for affected students to control their motor functions. Many students with learning disabilities exhibit behaviors associated with attention problems but do not necessarily have ADD or AD/HD.

authentic assessments: Assessments that attempt to test students in a manner that replicates a real-life situation. So, for example, an authentic assessment in a business class might require students to prepare a business plan and present it to a group of peers pretending to be venture capitalists. Or a student might demonstrate understanding of a chemistry unit by testing local waters for pollution or oil spills. Test makers sometimes try to make their tests more authentic by including real-world problems, such as balancing a checkbook on a math test. Critics of authentic assessment contend that most such tasks are individualistic, cannot be compared, and are necessarily graded by subjective measures.

authentic engagement: Enthusiastic involvement of students in their schoolwork, as opposed to involvement motivated solely by fear of failure or by the desire to win extrinsic rewards, such as good grades.

authentic learning: Schooling related to real-life situations, as opposed to learning only from books, especially textbooks. Advocates of authentic learning emphasize the value of real-life problems and experiences, contending that what is taught in school has little relationship to anything people do in the world outside school or to the interests of students themselves; efforts to make learning more authentic are intended to overcome that problem. Authentic learning activities tend to involve the kinds of problems faced by adult citizens, consumers, or professionals and usually require teamwork, decision making, and problem solving. Critics are concerned that such an approach could discourage learning from books, which are an important part of education. An education that consisted only of authentic activities, the critics say, would leave students ignorant of history, literature, and philosophy, as well as of the principles of science and mathematics.

authentic literature: Trade books, newspapers, magazines, and student-written stories, as opposed to textbooks; literature that is presented in its entirety, without selection or bowdlerization. Some plays by Shakespeare included in high school anthologies are edited to remove sexual references, such as those found in *Romeo and Juliet*. The American Library Association and the National Council of Teachers of English have inveighed against

censorship of texts, but without much success. Some people also use the term *authentic literature* to refer to writings by members of racial and ethnic minority groups. Such collections are presumed authentic in the sense that they represent the diversity of the population at large.

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authentic task: A school assignment that is like a real-world problem, similar to one that might be encountered at home, while shopping, or in the workplace.

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authorizing agency for charter schools: An organization empowered by state legislation to issue a charter to groups that wish to establish charter schools. Some states give this authority to the state board of education or to local boards of education, whereas others create a special board to authorize charter schools or permit universities to do so. The states in which there are multiple authorizing agencies tend to have larger numbers of charter schools.

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autism: Pervasive developmental disability that involves the inability to interpret the emotions of others and that significantly affects verbal and nonverbal communication. Individuals with autism have difficulty with the social interaction necessary to ordinary functioning in social settings, including educational ones.

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auxiliary services: Most of the services provided by schools that are nonacademic in nature, such as operations, food services, maintenance, transportation, security, and facilities.

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average class size: The number of students in a given school or district divided by the number of classes. Because some teachers, such as reading specialists and special education teachers, have assignments outside the regular classroom, the average class size is usually larger than the pupil-teacher ratio. See also **pupil-teacher ratio**.

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average daily attendance (ADA): The total number of days of student attendance divided by the total number of days in the regular school year. ADA is not the same as enrollment, or register, which is the number of students enrolled in each school and

district. (This number is determined by counting students on a given day, usually in the fall.) ADA tends to be lower than enrollment due to such factors as students moving, dropping out, or staying home because of illness. Based on counts taken on predetermined dates during the school year, average daily attendance is a factor used by state and federal departments of education to determine how much money schools receive. See also **enrollment**.

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aversive behavioral therapy: Extreme forms of discipline, such as electroconvulsive therapy, bodily restraints, food deprivation, noxious tastes, and white noise through earphones, sometimes used in boarding schools that treat children who are emotionally or psychologically troubled. The purpose is to have students associate an undesirable behavior with a strong feeling of dislike or disgust, thus reducing or eliminating that behavior. Such therapy is very controversial and is often banned or regulated by state authorities.

Have you ever heard of Suggestopedia? Do you know what a gallery walk is? How about the difference between a stem and a foil? Maybe you don't think it's necessary to know these education terms. Diane Ravitch thinks otherwise.

Education, like most professions, has its own unique vocabulary that is often unfamiliar to outsiders. But unlike those of other professions, Ravitch contends, the language of education must be clear and intelligible to all. Because education in large part determines the future of our society, economy, and culture, it's crucial that education issues be understood by the general public. And to understand the issues, we need to understand the specialized language used in the field.

In this book, Ravitch demystifies the often-obscure and ever-changing lingo of the education field. With more than 500 entries, *EdSpeak* translates what Ravitch refers to as the "strange tongue" of pedagogese into plain English, adding historical context and lively commentary along the way.

This glossary will serve as a valuable resource both for veteran educators who need to stay abreast of newly emerging terminology and for newcomers to the profession—be they teachers, administrators, parents, students, or just citizens who care about what happens in the classroom.

Diane Ravitch is a historian of education. She is Research Professor of Education at New York University and a senior fellow at the Brookings Institution in Washington, D.C., and at the Hoover Institution, Stanford University. She was assistant secretary in charge of research in the U.S. Department of Education in the administration of George H. W. Bush and was appointed to the National Assessment Governing Board by President Bill Clinton. She is the author of eight previous books on education, including *The Language Police: How Pressure Groups Restrict What Students Learn* (2003). She lives in Brooklyn, New York.

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EDUCATING EVERYBODY'S CHILDREN

Diverse Teaching Strategies for Diverse Learners

Revised and Expanded 2nd Edition

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Preface:

Educating Everybody's Children: We Know What We Need to Do

Robert W. Cole

In the spring of 1991, ASCD convened a special Advisory Panel on Improving Student Achievement. The panel's aim was to develop school improvement plans that made use of the knowledge base of best practices in teaching and learning. The panel was also charged with identifying the degree to which young people's demographic profiles and social conditions (including gender, socioeconomic status, and cultural, ethnic, and linguistic heritage) influenced their performance in school. The panel members found that good teaching—teaching that is engaging, relevant, multicultural, and appealing to a variety of learning styles—works well with *all* students, but that students from diverse backgrounds may have additional educational needs. To meet the educational needs of all students, the panel concluded, educators need an extensive repertoire of effective instructional tools. Those tools and the knowledge base behind them, gleaned from an extensive review of both basic and applied research, serve as the foundation of this book, just as they did for the two previous volumes in the *Educating Everybody's Children* series.

In 1992, as part of this same effort to make the knowledge base on effective teaching available to practitioners, ASCD convened the Improving Student Achievement

Research Panel, composed of 18 distinguished researchers representing diverse fields and disciplines. The charges to that panel:

1. Produce a publication conveying what research and practice reveal about enhancing the achievement of all students.
2. Identify principles and strategies shown to be effective in meeting the needs of a broad base of our student population.
3. Explore what research has revealed about successfully addressing the needs of students from economically, ethnically, racially, culturally, and linguistically diverse groups.

In dealing with diverse student populations, it is crucial to consider language, heritage, culture, and other contextual factors that may influence academic achievement. Practitioners need to focus on the knowledge and abilities that diverse learners bring to the education setting. Culture and social circumstances profoundly shape learners' interactions with their environment and influence the ways in which they respond to classroom activities.

The differences in achievement between students of mainstream backgrounds and students of nonmainstream backgrounds are not the result of differences in their ability to learn, but rather of discrepancies in the quality of instruction they have received in school. For too long, these students have been poorly served by U.S. schools, and meeting the needs of students from diverse backgrounds continues to be a challenge for many practitioners in the field. Often, teachers have low expectations of poor or minority students that are shaped by inaccurate assumptions about innate ability and a lack of knowledge about students' different cultural backgrounds, including the rules of social interaction between adults and children. In addition, the conditions of schooling in high-poverty areas often include dilapidated buildings, faulty or nonexistent equipment, low wages for teachers, teachers with minimal teaching skills, fragmented families, and deteriorated and demoralized neighborhoods.

Rapidly Changing Demographics

Despite these problems, pockets of educational excellence have emerged in which schools have reversed low achievement. But we need more than pockets of excellence. The demographic makeup of the United States continues to change at a rate scarcely imagined when the first volume of *Educating Everybody's Children* was published more than a decade ago. According to *The Condition of Education 2006* (Rooney et al., 2006), minority students now make up roughly 43 percent of U.S. public school

enrollment. And in 2000, almost 20 percent of the country's 58 million preK–12 students were children of immigrants (Capps et al., 2005). Public schools are at the heart of efforts to incorporate these immigrants into U.S. society, and the number of immigrant students grows daily. Children who speak a language other than English are the fastest-growing segment of the U.S. school-age population.

Let us examine some of the specific demographic changes that are overtaking the United States and its schools, with the aim of considering their implications for classroom instruction. (The following statistics were drawn from the U.S. Census Bureau's Web site: http://www.census.gov/popest/estimates.php.)

- The U.S. Hispanic population has almost doubled between the 1990 census (22.4 million) and the U.S. Census Bureau's July 2005 population estimate (42.7 million). Twenty-two percent of the U.S. population under age 5 is Hispanic, and 31 million U.S. household residents ages 5 or older speak Spanish at home. In 2004, 21.9 percent of Hispanics were living in poverty, and 32.7 percent lacked health insurance.
- The African American population, once the largest U.S. minority group, is now estimated by the U.S. Census Bureau to be 39.2 million, making up 13.4 percent of the total population. Thirty-two percent of the black population was under age 18 as of July 1, 2004, and 24.7 percent of blacks were living in poverty. Eleven percent of black youngsters live in grandparent-headed households.
- The population of American Indians (or First Nation people) and Alaskan Natives is 4.4 million, or 1.5 percent of the U.S. population, according to the 2004 census estimates. Some 381,000 people ages 5 or older speak a native North American language at home. (The most prevalent is Navajo; there are 178,014 Navajo speakers.) Twenty-four percent of American Indians live in poverty, and 29 percent lack health insurance. Why focus on these three demographic groups? Because, on average, "African American, Latino, and American Indian children arrive at kindergarten or first grade with lower levels of oral language, prereading, and premathematics skills, as well as lesser general knowledge, than are possessed by White and Asian American children. African American, Latino, and American Indian children also display behaviors less well suited to the school's learning environment" (Farkas, 2003).

And a special *Education Week* online report noted that "while chances exist at every level of education—early-childhood, K–12, and postsecondary—to help break the cycle of poverty, a recent volume by the Washington-based Brookings Institution

suggests that too often schools perpetuate rather than reduce class differences. That's in part because children from low-income families generally attend schools that by any measure—school resources, student achievement, qualified teachers—lag behind those of their more affluent peers" (Olson, 2007).

The National Commission on Teaching and America's Future noted that the Education Trust's 2006 report *Teaching Inequality* "unequivocally shows that low-income students and children of color continue to be disproportionately taught by inexperienced, under-qualified teachers" (2006). Indeed, the Education Trust reports that "a full 86% of math and science teachers in the nation's highest minority schools are teaching out of field" (2006).

Overcoming a Pedagogy of Poverty

In 1999, UNESCO declared that every child has the right to high-quality educational experiences. It has become increasingly clear, however, that an enormous gap yawns between that high-minded declaration and the reality of schooling for too many of our children. The good news is that worldwide efforts continue in the push to educate *everybody's* children. The bad news, of course, is that so much remains to be accomplished.

Research shows an ever-widening achievement gap between low-income children and children in more fortunate circumstances. Researchers are examining the barriers that some students face in our schools—barriers too often grounded in class and race—that systematically exclude them from any chance of success in school and in society.

It is no mystery why some students fail. Our education system was designed in the early 1900s as a convenient means of sorting and labeling young people. But labels brand and stifle students rather than encourage them to succeed. Labels identify some students as being less worthy of high-quality school experiences.

The result of such systemic labeling is what Martin Haberman (1991) calls a "pedagogy of poverty," in which low-level tasks become the norm for the less fortunate. Haberman identified the heart of this all-too-common approach to instruction as a set of activities that some teachers use "to the exclusion of nearly everything else." These tasks include "giving information, asking questions, giving directions, making assignments, monitoring seat work, reviewing assignments, giving tests, reviewing tests, assigning homework, reviewing homework, settling disputes, publishing noncompliance, marking papers, and giving grades" (p. 291).

Every one of these activities can be beneficial, admits Haberman. But, he notes, "taken together and performed to the systematic exclusion of other acts, they have become the pedagogical coin of the realm in urban schools. They constitute the pedagogy of poverty—not merely what teachers do and what youngsters expect, but, for different reasons, what parents, the community, and the general public assume teaching to be" (p. 291).

As Eleanor Dougherty and Patte Barth (1997) have observed, "poor and minority children are systematically bludgeoned into low academic performance with a steady dose of low-level, boring, if not downright silly assignments and curricula" (pp. 40–44). In such settings, students do not learn how to think critically and are thus unable to use what they already know to help them understand their world. The willful failure to provide a high-quality education can be a death sentence for these students' futures. Yet we allow some youngsters to languish in such settings during their entire academic careers. A pedagogy of poverty contradicts what we have learned of best teaching and learning practices; it is a subtle, pernicious form of racism.

All too frequently, the young people who need our help the most—children of color who attend high-poverty urban schools—are taught by teachers who "often do not realize that they are setting such low expectations" (Dougherty & Barth, 1997, p. 40). Like many teachers in diverse settings, they have few opportunities to interact with their colleagues or to pursue enriched professional development opportunities—opportunities that should be a part of the professional experience of all teachers, regardless of where or whom they teach. Teaching and learning are complex processes, best supported by research-based practices. These practices cannot be learned and implemented in a vacuum. They must be learned and used within the context of high-quality professional development experiences.

Naturally, most teachers do not intentionally deliver poor instruction. But some most certainly are guilty of doing so, and we cannot afford to ignore that fact. Students cannot learn when they are intellectually starved. Dougherty and Barth (1997) believe that "schools would be far better off ensuring that every activity in every classroom challenges students and guides them toward achieving mastery of core academic content and skills. The best way to do this is by making every assignment worth doing" (p. 40). More often than not in this era of high-stakes testing, and particularly in the case of diverse learners, not every assignment is worth doing.

This unrelenting exposure to a pedagogy of poverty continues to be a pervasive problem in high-poverty schools. Mary Metz (1998/1999) found glaring differences in the educational experiences offered to youngsters in high-poverty areas:

> When analyzing the differences in teachers' work in . . . schools across communities differing in social class . . . everything was different . . . the teachers' concerns, and, most strikingly, the rhythm and content of classes—even when they had the same title and used the same textbook. American schools are supposed to be similar, in order to provide equal opportunity to all children. . . . There are, increasingly, . . . distressing circumstances that hinder education in schools in poverty areas, especially those in central cities. These differences between schools [differing in social class] are informal and unofficial, however. These differences in student achievement . . . and the differing expectations that teachers . . . hold for their future accomplishments powerfully affect . . . teachers' . . . motivation to pour resources into academic effort. It is painful and politically delicate to look too closely at the separation among schools created by housing and school district lines in metropolitan areas. To look too closely, to admit that this separation has profound educational consequences, is to admit that we are not offering equality of opportunity to the nation's children. (p. 6)

Although the differences Metz describes fall along income lines, it is important to note that they also fall along color lines. When it comes to academic achievement, a disproportionate number of students of color finish at the bottom. Racism permits some youngsters access to the very best that U.S. society has to offer, while barring others from an equal chance for success in life. Changing this nation's deeply entrenched attitudes toward children of color will take courage—and time.

Can we hope to change the outlook of an entire nation, working person by person? One thing is certain: we can work to ensure that each student, regardless of background and racial characteristics, receives a high-quality education. The most vital fact we have learned as a result of the education reform movement is this: *student achievement stands or falls on the motivation and skills of teachers*. We can begin by certifying that all teachers are capable of delivering a standards-based curriculum that describes what all students should know and be able to do by the time they reach specified grade levels. Then we must ensure that these standards are delivered by means of a "pedagogy of plenty." By these two acts alone we can help to ensure that all schools will be ready and able to educate everybody's children.

No Child Left Behind

There is another topic that cannot be ignored: the No Child Left Behind Act (NCLB). As Monty Neill noted, the fundamental promise of NCLB when it was signed into law in 2002 was that it would "bring new levels of attention and achievement to students traditionally underserved by schools" (quoted in Meier & Wood, 2004, p. 102)—in other words, exactly those young people for whom this book was created.

Unfortunately, according to Linda Darling-Hammond, "the biggest problem with the NCLB Act is that it mistakes measuring schools with fixing them" (quoted in Meier & Wood, 2004, p. 9). In addition, it does not "acknowledge or effectively address . . . the enormous inequality in the provision of education offered in the United States. Unlike most countries that fund schools centrally and equally, the wealthiest U.S. public schools spend at least ten times more than the poorest schools—ranging from over $30,000 per pupil at the wealthy schools to only $3,000 at the poorest. These disparities contribute to a wider achievement gap in this country than in virtually any other industrialized country in the world" (Meier & Wood, 2004, p. 6).

In the end, Neill finds, "NCLB's promises are undermined by its realities. The accountability measures . . . are fundamentally insufficient and counterproductive to the goals of educating all students well and of serving well the underserved" (quoted in Meier & Wood, 2004, p. 104). And educating *all* students well—with special attention to the underserved—is the aim of this book.

A Pedagogy of Plenty: Addressing the Achievement Gap

Just as we can pinpoint reasons why some of our children seem doomed to failure, we can also identify concrete solutions that offer all students greater opportunities to succeed in school. These solutions constitute a pedagogy of plenty.

A pedagogy of plenty is teaching at its best. When we integrate proven, research-based strategies into daily classroom practice and use them to help children transcend their situations outside school, we enable students to reach their highest potential and, in the process, to acquire a range of resilient behaviors that lead to success both in school and in life. What might all children attempt if they knew they

could not fail? We know that the stronger children's self-esteem is, the more likely they are to capitalize on their strengths. This is why some children do well despite the many obstacles in their lives.

A pedagogy of plenty

- Offers authentic tasks that give students real purposes for schoolwork and real audiences for that work.
- Provides a literacy-rich learning environment containing a wide variety of high-quality resources.
- Helps students make connections between their learning and their day-to-day experiences in their homes and communities.
- Offers experiential, problem-based, active learning opportunities.
- Engages students in working collaboratively on issues of deep concern to them.
- Exposes students to an inquiry-based approach to instruction that emphasizes making meaning, not just getting the right answer.
- Engages students in substantive dialogue, discussion, and debate to help them learn, understand, and apply the content of a given subject area.
- Allows students to have their home and community cultures, language heritages, and experiences acknowledged and incorporated into their schooling.
- Presents students with cognitive and metacognitive problems within the context of purposeful activities.

Teachers who succeed in bringing diverse learners to high levels of achievement have a considerable degree of expertise in subject-specific learning strategies. Yet they also recognize the importance of using a set of universal, research-proven teaching and learning practices that provide students with multiple avenues for academic success. These practices help teachers successfully implement content-specific strategies and, more important, are adaptable and proven to work with a broad range of students with varied backgrounds, abilities, and perspectives.

The first edition of *Educating Everybody's Children* identified 13 universal practices that had been found to be key in bridging the achievement gap. Five years later, in *More Strategies for Educating Everybody's Children*, three more such practices were added to the list, for a total of 16. These practices, which are examined in detail in Chapter 1, include the following:

Strategy 1.1: Provide opportunities for students to work in a variety of social configurations and settings.

Strategy 1.2: Use reality-based learning approaches.
Strategy 1.3: Encourage interdisciplinary teaching.
Strategy 1.4: Involve students actively.
Strategy 1.5: Analyze students' learning and reading styles.
Strategy 1.6: Actively model behaviors.
Strategy 1.7: Explore the fullest dimensions of thought.
Strategy 1.8: Use a multicultural teaching approach.
Strategy 1.9: Use alternative assessments.
Strategy 1.10: Promote home/school partnerships.
Strategy 1.11: Use accelerated learning techniques.
Strategy 1.12: Foster strategies in questioning.
Strategy 1.13: Emphasize brain-compatible instruction.
Strategy 1.14: Activate students' prior knowledge.
Strategy 1.15: Use a constructivist approach to teaching.
Strategy 1.16: Organize instructionally effective classroom environments.

To help practitioners systematically apply a range of powerful teaching methods, Helené Hodges, formerly director of collaborative ventures at ASCD, developed an organizing framework for these 16 universal strategies. Strategies founded in a common philosophical base and best implemented in context with one another are grouped together under a broader instructional objective. By applying complementary strategies in tandem, teachers can offer their students increased instructional support.

Organizing Framework for Universal Strategies

- *Capitalize on Students' Strengths* (Strategies 1.5 and 1.13)
- *Match Instructional Methods to Students' Instructional Needs* (Strategies 1.2, 1.4, 1.6, and 1.11)
- *Increase Interest, Motivation, and Engagement* (Strategies 1.12, 1.14, and 1.15)
- *Create Varied Learning Configurations* (Strategies 1.1 and 1.16)
- *Make Connections for Understanding* (Strategies 1.3, 1.7, 1.8, 1.9, and 1.10)

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continued from p. xv

This framework affords practitioners an opportunity to improve each student's performance. By capitalizing on students' individual learning strengths (strategies 1.5 and 1.13), teachers are in a better position to match appropriate instructional methods to students' instructional needs (strategies 1.2, 1.4, 1.6, and 1.11). Once teachers have begun to teach to youngsters' strengths and multiple intelligences, they can further increase students' interest, motivation, and engagement in learning (strategies 1.12, 1.14, and 1.15) by creating varied learning configurations (strategies 1.1 and 1.16) that enable students to make connections for understanding (strategies 1.3, 1.7, 1.8, 1.9, and 1.10).

Teachers will find this framework helpful for delivering not only the 16 universal practices but also content-specific teaching strategies. The heart of this book, in fact, is devoted to updated, in-depth examinations of strategies to improve achievement in specific content areas. The authors of the content-area chapters in this volume discuss a number of effective cross-disciplinary instructional strategies that are validated by research and classroom application. Common themes that appear throughout the book include

- Cooperative learning and collaborative problem solving.
- Integration across areas of the curriculum.
- Augmentation and application of students' prior knowledge and experiences.
- Recognition and application of students' cultural capital.
- Use of conceptual frameworks.
- Organization of instruction around themes.
- Problem-based learning, real-world applications of instruction, and student involvement and exploration.
- Use of technology, as well as reading and writing across the curriculum.

Chapter 2 and Chapter 8, the bookends of the five content-specific chapters, address teaching strategies to assist the diverse learners and immigrant and refugee children whose numbers continue to increase in U.S. classrooms. These chapters place special emphasis on establishing a climate of high expectations. In Chapter 2, Marietta Saravia-Shore notes the importance of "high expectations for the success of all students and a belief that all students can succeed" (p. 45). Elsewhere in her chapter, she warns that "teachers may have low expectations for students of diverse

backgrounds and thus fail to present them with challenging and interesting lessons" (p. 47). And JoAnn Crandall and colleagues assert in Chapter 8 that "students need opportunities to identify and celebrate their strengths, not focus on their weaknesses. Fortunately, there are many ways to accomplish this. Perhaps the most important is to have high expectations of these students and to provide opportunities that allow them to live up to those expectations" (p. 263).

Doing the Possible

I have come to understand that some of the fundamental elements of schooling in the United States, for good and for ill, persist no matter how much we might prefer to believe otherwise. As I worked on the final stages of this volume, it occurred to me to look back at the editorials I wrote for *Phi Delta Kappan* magazine. It was a sobering task.

In October 1981, during my first year as *Kappan* editor in chief, I wrote of "surprise that our schools are performing as well as they are when American children spend more time attending to TV than to teachers, when they return to badly troubled homes in neighborhoods that ignore the young, when schooling is not a national priority, when educators themselves cannot speak with one convincing and effective voice."

The following year, in October 1982, I wrote,

> Time rules teaching. Do not recent studies show that time on task is one of the most crucial of alterable variables in the learning process? Time. Is the mission of the schools crippled by an overcrowded, inflexible curriculum and competing demands for class time that leave teachers and administrators confused and rudderless? Time. Is it not true that the average student spends more time in front of the television than in the classroom? Time. Are not the number of single-parent homes—and the number of families in which both parents (if there are two) must work—at an all-time high, reducing the amount of time spent with the children? Time again. Time takes an awful toll on the work of the schools.

In March 1983, I quoted John Goodlad's *A Study of Schooling*, a monumental report that examined more than 1,000 classrooms in 38 enormously diverse schools. Goodlad's findings? Monotony. Lack of interest and cooperation. Low-level cognitive demands. Reliance on simple recall of facts—not on exploration or independent thinking or discovery. "The cards are stacked against innovation," Goodlad said then,

adding that to continue on the same course would only widen the gap between what was and what could be.

In March 1987, I wrote of children who live in pain, and of "today's test-driven, competency-based, tightly scheduled, reform-conscious schools."

The next month, I wrote that "educating our children for the 21st century means creating greater flexibility, not limiting it."

And during my final few months as *Kappan* editor, I quoted Bob Saunders, who once said, "We need to do the possible while we're waiting for perfection."

So, a couple of decades later, here we all are: well into the 21st century, still painfully hobbled by new versions of what I wrote about all those years ago. We have a new generation of "test-driven, competency-based, tightly scheduled, reform-conscious schools." We have new laws that limit rather than release teachers' creativity and flexibility. We work with a new generation of students—very likely the children of the students I wrote about then—who face the very same demons that plagued their parents.

More than ever, we need to "do the possible." And what's immediately possible lives in the pages of this book: tested instructional strategies that have given life and hope to real students of all abilities and backgrounds in real classrooms. Research shows plainly, repeatedly, that teachers who succeed at bringing diverse learners to high levels of achievement possess a wide array of research-based teaching and learning strategies. As our students become more and more diverse, so must our ways of teaching them. It is the quality of instruction, not a youngster's life circumstances, that determines performance in school.

All too often, the young people in our classrooms live lives on the ragged edges of viability. Homelessness, discrimination, starvation, abuse—the everyday conditions of their lives defy our convenient attempts to compartmentalize their experiences and our prescriptions for dealing with them. Too often, they and their barely subsistent families (if they have families at all) are voiceless. We have the power to give them a voice, to give them power, to give them the keys to a better life.

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1

Educating Everybody's Children: We Know What Works—And What Doesn't

Robert W. Cole

Children know how to learn in more ways than we know how to teach them.

—Ronald Edmonds (1991)

Good instruction is good instruction, regardless of students' racial, ethnic, or socioeconomic backgrounds. To a large extent, good teaching—teaching that is engaging, relevant, multicultural, and appealing to a variety of modalities and learning styles—works well with all children.

The instructional strategies outlined in this chapter reflect a sampling of the most exciting and determined efforts to change the way the United States educates its citizens. These "ideas at work" range in complexity and magnitude. They represent concepts that cut across content areas. They overlap so comfortably that they sometimes look like separate facets of a single gem. They are as much about attitude and general approach as about specific pedagogical techniques and classroom application. They have a few characteristics in common:

- They tend to be inclusive, not exclusive.
- They work best in context with other ideas and concepts, not in isolation.
- They often focus on students working within social situations rather than alone.
- Their activities, techniques, and goals are interactive and interdisciplinary, realistic rather than esoteric.
- Possibly most important, they empower students to be actively involved in the processes of their own learning, rather than passively receptive.

None of the ideas in this chapter is new. Although some of them tend to be identified with specific programs, individuals, or locations, they are presented here as generic—that is, as applicable in virtually any classroom, in any subject area. All are adaptable.

Why ideas *at* work rather than ideas *that* work? Because "ideas that work" implies a kind of guarantee of effectiveness. In the real world of the schools, however, nothing works every time, everywhere, for everyone. No single strategy, approach, or technique works with all students. But the concepts in this chapter have proven themselves over time, with a multitude of students of diverse backgrounds and widely ranging abilities.

Unfortunately, numerous barriers can prevent poor and minority students from receiving good instruction. Some of these barriers are caused by educators' attitudes and beliefs; others are the result of institutional practices. The intent of the listing that follows is not to provide a thorough cataloguing of every barrier to sound instruction, but rather to place educators on alert.

Attitudes and Beliefs

Racism and Prejudice

Despite much progress during the past few decades, racism and prejudice are still ugly realities in all sectors of life in the United States, including education. Today, racism may be less overt and virulent than in the past, but its effects can still greatly harm minority students. In fact, subtle, insidious forms of racism may be even more harmful to young people than more blatant forms.

Prejudice against the poor, of whatever race or ethnicity, is another force that works against the academic achievement of disadvantaged students. For example, some teachers of poor students don't let them take materials home, out of fear that the materials will never be returned. Yet these same students tend to be proud to have the responsibility for taking materials home and are generally exceedingly careful to return them.

Obviously teachers must avoid discriminating, consciously or unconsciously, against students because of their racial, ethnic, or socioeconomic backgrounds. Such discrimination can be as blatant as imposing harsher discipline on minority students or as subtle as lowering expectations for poor children because they have "difficult" home lives. Teachers must be aware that they see students' behavior through the lens of their own culture. They must carefully examine their own attitudes and behaviors to be sure that they are not imposing a double

standard. Most important, they must believe sincerely and completely that all children can learn.

Expectations

Educators must hold equally high expectations for affluent white students and poor and minority students—despite the disparity in students' backgrounds. Under the right conditions, low-income and minority students can learn just as well as any other children. One necessary condition, of course, is that the teacher hold expectations of high performance for *all* students.

Both high and low expectations can create self-fulfilling prophecies. Students must believe that they can achieve before they will risk trying, and young people are astute at sensing whether their teachers believe they can succeed. By the same token, teachers must truly believe their students can achieve before they will put forth their best effort to teach them. The teacher's beliefs must be translated into instructional practices if students are to benefit: actions speak louder than attitudes.

Teachers must also be sensitive to the subtle ways in which low expectations can be conveyed. According to researcher Sandra Graham of the University of California–Los Angeles, when a teacher expresses sympathy over failure, students typically infer that the teacher thinks they are incapable of succeeding, not that they simply may not have tried hard enough. Similarly, when a teacher gives students lavish praise for completing a simple task or offers help before being asked for it, students infer that the teacher thinks they are stupid. In other words, holding high expectations is not simply a matter of cheerleading; it requires insight into how students may interpret a teacher's words and behaviors.

Teachers must also resist the temptation to attribute student failure to lack of ability ("I've taught this concept and they didn't understand it; they must not be smart enough"). Failure to learn can stem from many other causes, such as inadequate prior knowledge, insufficient effort or motivation, lack of the right learning strategy, or inappropriate teaching. The bottom line is this: if students are not learning, the teacher needs to change the approach to teaching them.

Teachers are not the only ones who need to examine their expectations for students, however. Administrators who decide what courses their schools offer should ask themselves whether they are providing too few challenging courses. And counselors must consider whether they are steering students into undemanding courses because the students are poor, minority, or female. The expectation that all students can achieve at high levels, under the right circumstances, should be the guiding principle of every school.

Lack of Understanding of Cultural Differences

Teachers sometimes misinterpret the behaviors of poor and minority students because they do not understand the cultures they come from. White teachers can easily misread the behaviors of black students, for example. In *Black Students and School Failure,* Jacqueline Jordan Irvine (1990) writes:

> Because the culture of black children is different and often misunderstood, ignored, or discounted, black students are likely to experience cultural discontinuity in schools. . . . This lack of cultural sync becomes evident in instructional situations in which teachers misinterpret, denigrate, and dismiss black students' language, nonverbal cues, physical movements, learning styles, cognitive approaches, and worldview. When teachers and students are out of sync, they clash and confront each other, both consciously and unconsciously. . . . (p. xix)

Only when teachers understand their students' cultural backgrounds can they avoid this kind of culture clash. In the meantime, the ways in which teachers comprehend and react to students' culture, language, and behaviors may create problems (Erickson, 1987). In too many schools, students are, in effect, required to leave their family and cultural backgrounds at the schoolhouse door and live in a kind of "hybrid culture" composed of the community of fellow learners (Au & Kawakami, 1991).

Especially in the early grades, teachers and students may differ in their expectations for the classroom setting; each may act in ways that the other misinterprets. In addition, those teachers (and they are legion) who insist on a single pedagogical style and who see other styles as being out of step, may be refusing to allow students to work to their strengths.

As Knapp and Shields (1990a) suggest, the so-called "deficit" or "disadvantage" model has two serious problems: (1) teachers are likely to set low standards for certain children "because their patterns of behavior, language use, and values do not match those required in the school setting"; and (2) over time a cycle of failure and despair is created that culminates "in students' turning their backs on school and dropping out . . . because teachers and administrators fail to adapt to and take advantage of the strengths that these students do possess" (p. 755).

Institutional Practices

Tracking

The most notorious of the harmful institutional practices is tracking, which dooms children in the low tracks to a second-rate education by failing to provide them with the support they need to move to a higher track. As a result, they fall further and further behind their peers. Students in low tracks are stigmatized and lose self-esteem and motivation, while expectations for their performance plummet.

In *Keeping Track*, researcher Jeannie Oakes (1985) says, "We can be quite certain that the deficiencies of slower students are not more easily remediated when they are grouped together" (p. 12). Yet even now the practice of tracking persists, despite the negative effects on students documented by Oakes and many other researchers. Tracking is especially harmful to poor and minority students because these students are more likely to end up in the low tracks.

Effective alternatives to tracking have included the Accelerated Schools Project, developed by Henry Levin of Stanford University,

which includes accelerated programs to bring at-risk students into the mainstream by the end of elementary school and results in faster learning because students receive engaging, active, interdisciplinary instruction; and the Higher Order Thinking Skills (HOTS) program, developed by Stanley Pogrow of the University of Arizona–Tucson, which works to enhance the general thinking skills of remedial students by showing them how to work with ideas. These programs and others are aimed at helping students get up to speed, rather than permanently segregating them and feeding them a dumbed-down curriculum.

Inappropriate Instruction

Inappropriate instruction harms poor and minority students. Instead of being presented in a variety of modes, instruction in too many U.S. schools tends to be abstract, devoid of application, overly sequential, and redundant. Bits of knowledge are emphasized, not the big picture, thus handicapping global thinkers. Moreover, the largely Eurocentric curriculum downplays the experiences and contributions of minorities.

For teachers of diverse students, it is especially important to use a broad repertoire of strategies. Some children may be global thinkers; others, more analytical. Some children may learn best from lecture and reading; others, through manipulatives and other hands-on experiences. Some children may thrive on competition; others may achieve far more in cooperative groups.

Differential Access

Poor and minority students are often denied access to challenging coursework. Counselors place them in remedial or undemanding courses, and because more challenging courses often require students to have taken specific introductory courses, students can never switch to a more demanding track. Irvine (1990) cites data showing that "black students, particularly black male students, are three times as likely to be in a class for the educable mentally retarded as are white students, but only one-half as likely to be in a class for the gifted and talented" (p. xiv). In addition, the pull-out programs intended to help many of these students end up fragmenting their school day. And after pull-out programs end, students are given little support for reentering the regular classroom, so they tend to backslide when they rejoin their peers.

Lack of Consequences

Unfortunately, there are few consequences for students and teachers if poor and minority students do not learn. So long as students put in the required seat time, they will receive a diploma; so long as teachers go through the motions, they will have a job. In many cases, nobody—not the education establishment, not the parents or guardians, not the politicians—protests a status quo that is woefully deficient.

Schools that have had success in teaching poor and minority students do not keep ineffective teachers on the faculty; in these schools, teachers are held responsible if their students do not learn. These schools also collaborate with

parents or guardians to ensure that students who come to school and strive to achieve are rewarded.

Disciplinary Practices

Teachers sometimes punish poor and minority children more harshly than they do other children for the same offenses. Moreover, suspension is often the punishment of choice, causing students to miss valuable class time. According to Irvine (1990), "one factor related to the nonachievement of black students is the disproportionate use of severe disciplinary practices, which leads to black students' exclusion from classes, their perceptions of mistreatment, and feelings of alienation and rejection, which result ultimately in their misbehaving more and/or leaving school" (p. 16).

On the other hand, some teachers are more lenient with poor or minority students, because they believe these children have been socialized differently than mainstream children. For example, teachers might overlook boisterous or aggressive behavior among poor or minority students while chastising mainstream students for similar behavior. Teachers need to establish a clear, reasonable discipline policy and require all students to abide by it.

Involvement of Parents or Guardians

Poor and minority parents or guardians often have no opportunities to create an ongoing relationship with their children's schools; in fact, they often have no communication with the schools at all. In turn, schools tend to make few efforts to develop a relationship with poor and minority parents or guardians, who may be too intimidated or hard-pressed to initiate contact themselves. For parents who don't speak English, the language barrier can pose another formidable obstacle.

James Comer of the Yale Child Study Center has developed a process to foster good relationships among children, teachers, and parents or guardians. Parents or guardians are encouraged to be an active presence in the school. Social activities bring families and school staff together, helping parents or guardians gain trust in the school. The program has reportedly helped to lower dropout rates, among other benefits.

Unequal Access to Resources

Unequal access to resources further reduces poor and minority students' chances of receiving equal opportunities to learn. Poor and minority students typically attend schools that receive less funding than those attended by mainstream students. As a result, they are taught with inferior materials and equipment and have fewer manipulatives, laboratories, and facilities. Teachers in such schools receive less staff development, must cope with larger classes, and have less free time.

The Negative Impact of Testing

Standardized tests can be seen as one way in which a meritocratic society reorders a widely disparate populace into hierarchies of abilities, achievement, and opportunity. In fact, the power of tests to translate difference into disadvantage is felt at many points in the world of education,

most notably in the decision to place low-income and language-minority students into compensatory or bilingual education classes, where a watered-down, fragmented, and rote curriculum reinforces the disadvantages presumably diagnosed by the tests.

More than ever before, it would seem, multiple-choice tests are being used inappropriately as the ultimate measure of students' learning and capabilities—despite a wealth of evidence that undermines the wisdom of using them in this manner. Decisions that significantly affect students' academic destinies are often made on the basis of a single test score. Moreover, norm-referenced tests reinforce the attitude that some students should be *expected* to do poorly. To be fair to all students, assessment should be primarily criterion-referenced and, as far as possible, based on actual performances. Perhaps most important, a variety of measures should be used to assess student learning.

Lack of Bilingual Instruction

Not surprisingly, many students who do not speak English fall behind in their studies early, because they are not taught content in their native language. When they eventually learn English, they have lost so much ground in their schoolwork that they find it difficult (and sometimes impossible) to catch up with their peers. In far too many cases, these students become discouraged and drop out of school.

Overall, there is the too-common problem of organizational inertia and resistance to change: reluctance to accept bilingual programs, to hire bilingual personnel, to upgrade the status of teachers of English as a second language (ESL), to support the acquisition and development of primary-language materials, to monitor and assess the progress of language-minority students, and to deal with the unique problems facing newcomers, including their need for counseling.

The number of bilingual teachers in U.S. schools is woefully insufficient, and the use of existing bilingual teachers is far from satisfactory. Schools do not use bilingual teachers to the best advantage—that is, to take maximum advantage of their dual-language abilities. The training and staffing of ESL and "sheltered English" classes remain inadequate. Beyond staffing, there is a dearth of primary-language materials, especially for languages other than Spanish, and bilingual educators regard even those materials as inadequate.

Students who speak a language other than English need to be taught content, for a time, in their native language, while they are also given intensive training in English. When they rejoin their English-speaking peers, they will be up to speed in their studies.

Universal Teaching Strategies

Naming the barriers to the kind of schooling we want for all of our children is at least a beginning. Naming the problem allows the challenging process of treating it to begin. The next section of this chapter will outline 16 generic instructional strategies that are intended to provide assistance in treatment.

Strategy 1.1:

Provide opportunities for students to work in a variety of social configurations and settings.

Susie, Ron, Tasha, Jamal, and Juan have a lot in common. They are roughly the same age, sit in the same classroom, have the same teacher, and enjoy many of the same foods, games, and interests. As learners, however, they differ in critical ways. Susie is one of the 13 percent of youngsters in grades K–12 who learn best working alone; Ron, one of the 28 percent strongly oriented to working with a peer; and Tasha and Jamal, two of the 28 percent who learn best with adults (Tasha, by the way, with a collegial adult; Jamal, with an authoritative adult).

Of the five children, only Juan seems to learn reasonably well in any or all of those social configurations. In that respect, he represents fewer than one-third of the youngsters in a typical K–12 classroom. Of the five, only Susie and Juan are reasonably well served in the traditional teacher-oriented, teacher-directed classroom. Most of the time, the other three would be much better off in a different kind of learning situation—one far more diverse in its activities, curricular organization, and social configurations.

Few individuals in today's work world think of trying to solve a problem or launch a product or service without massive and persistent teamwork, including open discussion, fact gathering, consideration and argument, trial-and-error experimentation, research, and development. Typically, they not only depend on working with other individuals in their place of business, but also frequently call on outside consultants. Only in U.S. classrooms are individuals expected to find every answer, solve every problem, complete every task, and pass every test by relying solely on their own efforts and abilities.

The concept of cooperative/collaborative learning seeks to tap the potential that group interaction offers for learning and development. In its most formal manifestation, it places students—usually of varying levels of performance—into small groups in which they work together toward common goals. At the other end of the continuum is the more informal arrangement of peer tutoring, which has gained legitimacy as an effective form of cooperative/collaborative learning.

Those who advocate attending to students' varying learning styles note that some young people work best alone; others work most successfully with authority figures such as parents or teachers. In planning the use of various teaching strategies, teachers must be prepared to make adjustments according to the needs and learning styles of their students (Carbo, Dunn, & Dunn, 1986).

"So often teachers tell students to 'get along' or 'cooperate' but spend little time on skill practice and discussion of this basic human need," writes Robert Slavin (1986, p. 24). "Cooperative learning provides the teacher with a model to improve academic performance and socialization skills, and to instill democratic values. A wealth of research supports the idea that the consistent use of this technique improves students' academic performance and helps them become

more caring." Slavin cites positive effects in such diverse areas as student achievement at various grade levels and subjects, intergroup relations, relationships between mainstreamed and normal-progress students, and student self-esteem.

David Johnson and Roger Johnson (1990), two veteran advocates of cooperation and collaboration in the classroom, note that people in general do not know instinctively how to interact effectively with others. If cooperative efforts in the classroom are to succeed, students must get to know and trust one another, communicate accurately and unambiguously, accept and support one another, and resolve conflicts constructively.

Some advocates of cooperative/collaborative learning suggest that students be periodically regrouped within heterogeneous classes. They also recognize the value of flexible grouping—that is, regrouping at various times by varying criteria for varying purposes, based on immediate needs. Their reasoning is as follows:

- Small-group participation in various contexts for various purposes helps students recognize and learn to function effectively in a variety of social configurations.
- Forming teams of students who perform at different levels of achievement not only encourages self-esteem and group pride, but also engenders general appreciation and understanding of how individuals differ from each other in attitudes, abilities, points of view, and approaches to problem solving.

Cooperative/collaborative learning has been incorporated in a variety of classrooms for a variety of purposes. Those applications have involved student-selected activities, apportioning specific elements of classroom projects or lessons, brainstorming, role playing, problem solving, developing awareness of thinking strategies used by oneself or by one's peers, common interests, group analyses, and team learning.

To implement a technique known as a circle of knowledge, for instance, a teacher organizes a class into small groups (circles) of four or five students each, appoints a recorder/reporter in each, poses to all a single question to which there are many possible answers, sets a time limit, expects each group member to contribute at least one answer, and then, after facilitating whole-class sharing and challenges, announces a winning group.

Another technique, the jigsaw, allows a teacher to assign specific components of a major learning project to small task-oriented groups; each group has only a piece of the larger picture under consideration. When all the groups have reported their findings to the entire class, every student has the opportunity to grasp the entire picture.

Peer conferencing and peer collaboration are two techniques that are particularly useful for teaching writing. They offer student writers the critical response of firsthand, face-to-face comments, help them discover what it is to write for an audience, and provide them with opportunities to improve their writing ability as they work on assignments and interact with their peers (Herrmann, 1989).

Cross-age and peer tutoring are other forms of student-to-student interaction. The age-old

idea of tutoring has helped countless students. Many students identify with peers more easily than with adults, especially adult authority figures, and find it easier to model the behaviors of their peers than of their adult teachers. Finally, the one-to-one nature of peer tutoring offers immediate feedback, clarification, extension, and modification—usually in a nonthreatening social relationship (Webb, 1988).

Resources

Adams, 1990; Carbo, Dunn, & Dunn, 1986; Dunn & Dunn, 1993; Edmonds, 1991; Herrmann, 1989; Johnson & Johnson, 1986, 1990; Kilman & Richards, 1990; Knapp & Shields, 1990a, 1990b; Lehr & Harris, 1988; Slavin, 1986, 1987; Stevens, Madden, Slavin, & Farnish, 1987; Stover, 1993; Webb, 1988.

Strategy 1.2:

Use reality-based learning approaches.

Jim had trouble writing effectively. To be sure, his sentences were complete and grammatical, the words in them spelled correctly, the syntax straightforward if prosaic. There was one overriding problem with Jim's writing: what he wrote didn't say much of anything. His content and purpose were not specific, precise, or clear. That fact led to a more personal problem for Jim: he had ceased to trust his teacher's judgments of his work. When the teacher observed that his writing wasn't clear, Jim balked. "You're just saying that," he blurted out. "What have you got against me?"

"I'll tell you what, Jim," said the teacher. "Write to me about something you know that I don't know anything about."

After considering two or three possibilities, Jim named a card game his teacher had never heard of.

"OK," the teacher agreed. "Write step-by-step instructions on how to play the game and bring them to me. I'll follow the instructions, and you can tell me whenever I make a mistake."

"Fair enough!" Jim said.

Jim wrote in his typical style, and his teacher followed the instructions as earnestly as possible. Step by frustrated step, Jim saw the game fall to pieces. He stopped the exercise midway through.

"Give me time for a rewrite," he said, determined as ever. This time, however, he was convinced that he had a problem with his writing, and he was armed with a clearer perception of what to do about it.

Provide students with real purposes and real audiences for their speaking and writing, and you offer them valuable feedback as well as increased motivation. Writing an essay on a topic assigned by the teacher to every member of the entire class lacks the punch and the credibility of writing a personal letter to an editor, a local politician, or a community activist to express a heartfelt compliment, complain about an injustice, or inquire about an important issue. Students derive no satisfaction from succeeding with a mindless, silly activity such as circling the silent *E* in a list of words. Such an activity has no relation to real reading and no link to real life.

Communicating with real people about real issues, feelings, and beliefs is further enhanced when the content and style of that writing are grounded in the outside reality that the student brings to school. No matter how gilded or gutted its location—in city, suburb, or countryside—the student's community and personal experiences are valuable resources to be explored. They are grounds for inquiry and learning—things that count most in any classroom!

Schema theory firmly undergirds the strategy of reality-based learning. It outlines the belief that individual facts and phenomena are best perceived, learned, and understood within the larger contexts of structure or process. The value of reality-based learning has been firmly documented in the language arts—in reading and writing as well as in the understanding and appreciation of literature. It bridges school and home, classroom and clubhouse, hallway and street.

Extending the recognition and use of authentic purposes, materials, and content into any subject area helps ensure that learning experiences are meaningful and satisfying. Thus maps, directions, brochures, and directories find a comfortable home in English classes, and community surveys in math classes.

Ideas proliferate in every school—real problems to solve, real issues to resolve: how to manage recycling in the school cafeteria; how to make hallways safer and more hospitable; what to do about truancy or dropouts; whether to lock school doors and when. Problems awaiting study lie just outside the walls of virtually any school in the United States: traffic patterns; paths for bicyclists, joggers, or rollerbladers; recreational needs and resources for young people; the needs of and services for an aging population.

The combined processes of analyzing real problems and then suggesting solutions to them not only motivate learners, but also enable them to range in their thinking processes from recognizing information they need in the resources available to them, to gathering relevant information, to summarizing ideas, to generating potential solutions, and finally to analyzing the consequences and effectiveness of their solutions.

Reality-based learning counters the common notion that many students suffer from "cultural deprivation" and bring no educationally worthwhile experiences to school. "A more worthwhile approach . . . might be to examine the relationship between what particular groups of children know or how they learn and pedagogical practices," suggests Etta Ruth Hollins (1993, p. 93). "An improvement in teachers' understanding of how to build on and extend the knowledge and skills these children bring to school, rather than attempting to force the children to fit existing school practices, might get better results."

Resources

Bloome, 1976, 1985; Danehower, 1993; Hall, 1989; Hollins, 1993; Knapp & Turnbull, 1990; Lozanov & Gateva, 1988; Marzano et al., 1988; Marzano et al., 1992; Palincsar & Klenk, 1991; Palincsar, Ransom, & Derber, 1989/1990; Resnick, 1987; Richardson, 1988; Rowan, Guthrie, Lee, & Guthrie, 1986; U.S. Department of Labor, 1992; Walmsley & Walp, 1990.

Strategy 1.3:

Encourage interdisciplinary teaching.

Lynn Cherkasky-Davis (1993) described a collaborative project at the Foundations School (part of the Chicago Public Schools): an original version of the opera *Aida*, written, produced, costumed, rehearsed, and staged by students. What did that culminating event represent? It represented what the students had learned about the history, geography, sociology, culture, and drama of ancient Egypt, topics that over preceding weeks both nourished and fed on every subject area in the curriculum.

How useful might it be for a student to know something about the economics and the technology of 19th century New England whaling before reading *Moby-Dick*—and what better opportunity to merge the talents and interests inherent in the respective teachers of social studies, science, and language arts?

How might a thoughtful reading of Aldous Huxley's *Brave New World* illuminate issues, arguments, and ideas as diverse as eugenics, Malthusian economics, and the perceived amorality of modern mores and technology—again using convergent elements of separate disciplines?

Rarely, if ever, do we live our lives outside of school according to academic pigeonholes. We don't switch to a different frame of reference or way of doing things every 20 or 40 or 60 minutes. Even a well-executed shopping trip to the supermarket is an interdisciplinary experience! Scheduling, timing, planning, measuring, counting, reading, identifying, describing, comparing, assessing, affording, budgeting—not to mention spatial orientation, nutrition, and considerations of quality of life—all come into play within a single trip. Consciously or unconsciously, by the time we have negotiated our way from home through traffic to parking lot, then aisle to aisle to the checkout lane and home again, we have routinely called on the skills and content of every basic academic discipline that schools have to offer.

Most interdisciplinary teaching is not nearly so eclectic nor so involved. Just the same, such teaching does cross traditional subject-area lines and typically involves professional teamwork. It can incorporate into a social studies unit samples of literature and art produced during a given period or by a particular society. Ask students to interpret the samples in light of a specific social context, or to infer specific characteristics of the society from their observations and interpretations. Then let them compare their interpretations with those of their peers, and finally with written records from that period or society.

As another example, how about having students study the social impact of a given scientific or technological development at the same time they are becoming acquainted with the science or technology itself? Mathematics is a natural for interdisciplinary learning. Solving its problems can depend heavily on reading skills. Not only is math an integral component in scientific processes; it also plays an appealing role in creating puzzles, music, and architecture.

Interdisciplinary projects promote thinking strategies that cross content areas and transfer solidly into real-life applications—analytical

observation, for instance, or critical thinking, comparison and contrast, evaluation, perspective, and judgment. The teacher's role includes supporting those processes and helping students, through practice, to become aware of them and comfortable in using them.

Probably no other interdisciplinary approach has won greater acceptance, especially in the earlier grades, than that which has integrated five "basic skills"—reading, writing, listening, speaking, and mathematics—into one holistic classroom enterprise. Dorothy Strickland (1985) has itemized how simply and obviously such integration can be attained. Reading, for instance, can serve as model and motivation for writing that classmates can share by listening to such spoken activities as storytelling, reporting, oral composition, poetry, and dramatic readings. Reading skills also give a student access to information required in solving mathematical problems, and they play a major role in the interpretation of tables, charts, and graphs.

The "whole language" approach to instruction in reading and the language arts is a salutary example of how "disciplines" once viewed and taught as essentially discrete and separate from each other—that is, reading, writing, speaking, and listening—can easily be explored as interwoven threads in a single, unified tapestry of individual development.

Resources

Cherkasky-Davis, 1993; Jacobs, 1991; Marzano et al., 1988; Paris, Wasik, & Turner, 1991; Strickland, 1985; U.S. Department of Labor, 1992.

Strategy 1.4:

Involve students actively.

In collecting lunch money, the 1st grade teacher discovered that 8 of her 20 students had apparently brought their lunches to school with them. Rather than simply filing that observation mentally under "classroom administrivia," she posed a question to her class: "Twelve of you brought lunch money today. Knowing that, how many of you apparently brought your own lunches to school with you?"

"Some got out blocks," Mary Lindquist reported. "Some got out toy figures, some used number lines, some used their fingers, and some just thought through it. There were 10 or 12 different solutions, and each child wanted to explain his or her own way."

Students passively memorizing a single arithmetic procedure? Not at all. Instead, students actively involved in problem solving, whether or not they agreed on their methods and results.

"Most of us can remember sitting in a math class at one time or another thinking, 'When in the world am I ever going to use this?'" Lindquist commented. Mary Lindquist, then president of the National Council of Teachers of Mathematics, recounted the anecdote during an interview for an article that appeared in *Better Homes and Gardens* (Atkins, 1993). "Rote memorization is not preparing our children for the future. Kids need to use and understand math."

"By far, the highest percentage of students are tactile/kinesthetic," writes Angela Bruno (1982), "and when these youngsters manipulate hands-on materials they tend to remember more of the required information than through the use of any other sense."

There are several other reasons why students should be allowed to construct their own understandings, generate their own analyses, and create their own solutions to problems:

- It is neither engaging nor authentic to understand a fact or a situation exactly as someone else understands it. In real life, we build our own understandings to supplement, change, or confirm for ourselves what we already think we know or what others offer us in knowledge or ideas.
- Teachers promote interest and engagement when they let students address problems for which answers do not exist or are not readily apparent. Students then have real purposes for discovering and applying information and for using all the strategies that might possibly apply and that are available to them.
- Students who are intrinsically motivated and substantially engaged because of interest in meaningful learning activities are more likely to achieve high levels of performance than those for whom the completion of learning activities is simply a means of avoiding punishment.

Integrated throughout the school day and in every area of the curriculum, the range of active learning experiences includes games, simulations, role playing, creative dramatics, pantomime, storytelling, drawing, and contests that demonstrate integration of concepts and allow students to experience the ways in which concepts relate to each other in the world outside school. Other hands-on, tactile materials and activities include Cuisenaire rods, measuring cups, blocks and cubes, task cards, flip charts, field trips, and laboratory experiences. Many advocates suggest strongly that students be allowed to select for themselves those activities in which they will become involved.

Resources

Atkins, 1993; Brown, 1990; Bruno, 1982; Cohen, 1992; Hartshorn & Boren, 1990; Hodges, 1994; Joyner, 1990; National Council of Teachers of Mathematics, 1989; Roser, 1987; Strickland & Morrow, 1989.

Strategy 1.5:

Analyze students' learning and reading styles.

Everyone knows that there are all kinds of people: thinkers and doers, audiences and actors, readers and viewers, athletes and couch potatoes. (At least one venerated 6th grade music teacher routinely divided her class into singers and listeners.) Probably no other approach attempts to accommodate differences among individual students in greater detail than does that body of thought given the general rubric of learning styles.

David Kolb (Boyatzis & Kolb, 1991) identifies four predominant learning styles. *Imaginative* learners, he says, excel in watching, sensing, and feeling; *analytic* learners, in watching and

thinking; *common-sense* learners, in thinking and doing; and *dynamic* learners, in doing, sensing, and feeling.

Anthony Gregorc (1982, 1985a, 1985b) identifies four basic processes by which individuals differ in their learning patterns: (1) a *concrete-sequential* process characterized as structured, practical, predictable, and thorough; (2) an *abstract-sequential* process—logical, analytical, conceptual, and studious; (3) an *abstract-random* process—sensitive, sociable, imaginative, and expressive; and (4) a *concrete-random* process—intuitive, original, investigative, and able to solve problems.

In his highly regarded theory of multiple intelligences, Howard Gardner (1999) outlined eight different aspects by which individuals can come to know the world: linguistic, logical/mathematical, musical, spatial, bodily/kinesthetic, interpersonal, intrapersonal, and naturalist.

Addressing perennial debates about the best approach to teaching reading—phonics, whole language, sight vocabulary, and so forth—Marie Carbo (1987) writes that "any one of a dozen reading methods is 'best' if it enables a child to learn to read with facility and enjoyment" (p. 56).

No matter how much they echo or differ from each other, all descriptions of learning styles are simply attempts to define and accommodate the manner in which a given student learns most readily. The theory holds that learning styles develop through the unique interactions of biology, experience, personal interests, talents, and energy. A task force commissioned by the National Association of Secondary School Principals considered the many factors that can significantly shape an individual's learning style and selected 24 for further study; these range from "perceptual responses," "field dependence/independence," and "successive/simultaneous processing" to "persistence," "environmental elements," and "need for mobility."

Whatever the ultimate taxonomy of learning styles, it seems obvious that although all children can learn, each concentrates, processes, absorbs, and remembers new and difficult information differently. According to Rita and Kenneth Dunn (1993), the factors involved include the following:

- Immediate environment—for example, noise level, temperature, amount of light, furniture type, and room design.
- Emotional profile—for example, degree of motivation, persistence, responsibility, and need for structure and feedback.
- Sociological needs—for example, learning alone or with peers, learning with adults present, learning in groups.
- Physical characteristics—for example, perceptual strengths (auditory, visual, tactile, kinesthetic), best time of day for learning, potential need for periodic nourishment and mobility.
- Psychological inclination—for example, global and analytic strengths.

In the most formal model of matching instruction to learning style, teachers first identify each individual student's style through observation, interview, or questionnaire. They

share their observations individually with students and parents, and then plan and carry out an appropriate learning program for that child. The program includes compatible instructional practices and management strategies appropriate to what has been observed about the child's learning style. A less formal approach is to emphasize strategies that capitalize on the styles of most students, while accommodating those whose style differs markedly from the group.

Thus, instruction that attends to learning or reading styles capitalizes on an individual student's strengths and preferences while simultaneously removing barriers to learning. Instructional planning extends to such complementary methods, materials, and techniques as floor games, choices among reading materials and ways of receiving or presenting information, and participation in given activities (that is, with the entire class, in a small group, or alone). No one learning style is considered better or worse than any other (Carbo & Hodges, 1988; Hodges, 1994).

Research in learning styles and reading styles indicates that teaching academic underachievers in ways that complement their strengths in style has significantly increased their standardized test scores in reading and across subject areas.

Resources

Andrews, 1990, 1991; Bauer, 1991; Boyatzis & Kolb, 1991; Brunner & Majewski, 1990; Butler, 1984; Carbo, 1987; Carbo & Hodges, 1988; Dunn & Dunn, 1993; Gardner, 1999; Gardner & Hatch, 1989; Garrett, 1991; Gregorc, 1982, 1985a, 1985b; Hodges, 1994; Lewis & Steinberger, 1991; Orsak, 1990; Perrin, 1990.

Strategy 1.6:

Actively model behaviors.

Dorothy had tried for weeks to get her 6th graders to open up in class discussions. After years of traditional teaching, however (that is, the teacher asking the questions and one or two students offering "right" or "wrong" answers), her students were predictably passive. They consistently resisted all her attempts to open up her classroom. On the rare occasions when an intrepid student asked a question in return or dared to offer a comment, the eyes of every student in the room swung immediately and automatically to Dorothy for her verdict: right or wrong?

Then, quite by chance, Dorothy happened on a life-sized human figure made of cardboard. She realized at once that it was the very thing she needed to make her point. The following day, she launched a classroom discussion and popped a direct question to see if any of her students would volunteer a response.

Kathy did volunteer—tentatively, of course, and with just a word or two—but her response seemed to the class to merit a judgment from the teacher. All eyes fell in silence on Dorothy. Without saying a word, Dorothy walked to her closet, pulled out the cardboard figure, and set it in the chair behind her desk. With every eye following her in amazement, she sat down beside Kathy and stared silently at the cardboard figure, waiting like her students for its response.

Dorothy was modeling the behavior she saw in her students—behavior she was hoping they would overcome. They got the point! The

humor in the situation engaged their trust, demonstrated Dorothy's sincerity as a teacher, and dramatized their responsibility as participants in their own learning. Class discussions began to pick up, and Dorothy found fewer and fewer occasions to pull her cardboard counterpart out of the closet.

Most modeling, of course, is intended to work the other way around—that is, teachers usually behave as they would have their students behave. Learners gain when teachers practice what they preach, try out ideas in front of the class, or even participate actively in projects or tasks with the class.

When modeling, teachers—regardless of their subject area—follow the same assignments or suggestions that they give their students: they write on the same topics, figure out the same problems, play the same games, and ask themselves the same questions. And they do so in full view and hearing of their students, often as coparticipants in small-group activities, or one-to-one with a student.

The practice is neither demeaning nor condescending. Instead, it dramatizes desired behavior, one of the surest means available to demonstrate process, motivate and guide students, and help develop perspective on a given task or concept. As a teacher, let your students hear you think aloud. Teachers who share thoughts on how they have completed a certain task or arrived at a particular conclusion help students become aware of their own thinking strategies.

Modeling enables teachers to furnish appropriate cues and reminders that help students apply particular problem-solving processes or complete specific tasks—in storytelling, for instance, or inquiry, or evaluation. Among such techniques, scaffolding is one of the most generic and useful approaches. Scaffolding is a device by which the teacher builds on the point of reference at which a student hesitates or leaves off—in telling a story, in explaining a process, in seeking an answer, in any moment of discourse, analysis, or explanation. In scaffolding, the teacher simply suggests the next step, both reinforcing what the student has already achieved and guiding the student to greater understanding or accomplishment.

More generally, Costa and Marzano (1987) identify seven starting points by which teachers can create a classroom "language of cognition":

- Using precise vocabulary.
- Posing critical and interpretive questions, rather than simple recall.
- Providing data, not solutions.
- Giving directions.
- Probing for specificity.
- Modeling metacognitive processes.
- Analyzing the logic of language.

"Most teachers put too much emphasis on facts and right answers and too little attention on how to interpret those facts," writes school administrator Robert Burroughs (1993), commenting specifically on the teaching of literature. "The result has been growth in basic literacy at the expense of thoughtfulness . . . ."

Burroughs outlines specific preferred techniques among those he has seen teachers use to guide learning processes and thus structure

growth in understanding and appreciation. The techniques are adaptable to discourse, inquiry, or discussion in any subject area:

- Focusing—refocusing students' efforts at refining their own responses if, for instance, they begin wandering from the specific content at hand.
- Modifying or shaping—rephrasing a student's idea in slightly different language; for instance, if a student suggests that a character in a novel is resisting change, the teacher might add a word or two to encourage consideration of other explanations for the character's behavior.
- Hinting—calling attention to a passage in the text that challenges a student's view.
- Summarizing—restating ideas to bring them to everyone's attention and to spur discussion, or summarizing various positions students have taken along the way (1993, pp. 27–29).

Resources

Burroughs, 1993; Costa & Marzano, 1987; Langer, 1991; Marzano et al., 1988; Paris, Wasik, & Turner, 1991; Rosenshine & Meister, 1992; Vygotsky, 1962, 1978.

Strategy 1.7:

Explore the fullest dimensions of thought.

"What a beautiful horse!" said the city-bred dude. "How much is it worth?"

"Depends if you're buyin' or sellin'," answered the cowhand.

"Thinking cannot be divorced from content," writes Carr (1988). "In fact, thinking is a way of learning content. In every course, and especially in content subjects, students should be taught to think logically, analyze and compare, question and evaluate. Skills taught in isolation do little more than prepare students for tests of isolated skills."

If any of the ideas at work described in this chapter challenges the conventional wisdom of classroom practice, it is this notion: students, regardless of their performance levels, are capable of using higher-order thinking skills. This concept contrasts sharply with the attitude and practice of the high school English teacher who, on the first day of school, gave all 125 of her seniors a writing assignment. She collected and corrected their papers; pointed out the various lapses in spelling, grammar, and punctuation; and then used those errors to justify an unproductive, unchallenging year spent reviewing the same sterile exercises in spelling, grammar, and punctuation that her students had seen countless times before.

No one condones faulty grammar and inaccurate spelling, of course. At the same time, however (and far more important), teachers need not wait until students have mastered basic skills before they introduce the more complex skills of analysis, synthesis, criticism, and metacognition into their classroom routines. The process of gathering information, evaluating it critically, drawing inferences, and arriving at logical conclusions is based on evidence, and evidence can be expressed and recognized by many different means and in many different formats. Yes, every

student should learn to spell accurately, but it is not necessary to know that *I* comes before *E* except after *C* in order to test fairness or bias in an editorial statement or to detect straightforwardness or ambiguity in a politician's promise.

Wiggins (1992) notes that tests typically overassess students' knowledge and underassess their know-how. Onosko (1992) reports measurable "climates of thoughtfulness" in the classrooms of social studies teachers who reflect on their own practices, who value thinking, and who emphasize depth over breadth in content coverage.

Carr (1988) and others suggest various ways by which to introduce and pursue higher-order thinking skills in the classroom. For example, using all major news media—newspapers, magazines, television, and radio—motivates students, and comparing different accounts of the same story helps them develop questioning attitudes. "In the process," writes Carr, "they become more discriminating consumers of news media, advertising, and entertainment."

"All classification tasks," she notes, "require identification of attributes and sorting into categories according to some rule. While sorting concrete objects is an appropriate activity for the young child, verbal analogies (for example, 'How are a diamond and an egg alike?') are appropriate for learners of any age. . . . Applications to mathematics and science, especially the inquiry approach to science, are readily apparent."

"Schema theory," she continues, "holds that information, if it is to be retained, must be categorized with something already stored in memory. Brainstorming techniques that aid comprehension . . . help students to access their prior knowledge about a topic to be introduced, and thus to classify and retain the new information."

Children's literature becomes its own powerful tool, Carr concludes, citing Somers and Worthington (1979): "Literature offers children more opportunities than any other area of the curriculum to consider ideas, values, and ethical questions."

Just how seriously should Chicken Little's neighbors have taken her complaint that the sky was falling? Why? Why not? Was it fair for the Little Red Hen to keep all the bread she had baked for herself? How true is it that sticks and stones can break your bones, but names will never hurt you? Why does a rolling stone gather no moss? If water is heavier than air, how do raindrops get up in the sky? How does science differ from art, music from noise, wisdom from fact?

What is truth?

Resources

Adams, 1986; Bransford, Sherwood, Vye, & Rieser, 1986; Carr, 1988; Chi, Bassok, Lewis, Reimann, & Glaser, 1989; Lambert, 1990; Onosko, 1992; Paul, 1984; Rosenshine & Meister, 1992; Somers & Worthington, 1979; Wiggins, 1992.

Strategy 1.8:

Use a multicultural teaching approach.

Multiculturalism doesn't mean what it used to mean in education in the United States. Adding a speech by Martin Luther King Jr. to the literature anthology and offering parental instructions in Spanish—both good ideas in their own right—simply do not go far enough anymore. Teaching multiculturally throughout the curriculum is more than simply an attempt to combat racism. The more important aim of studying human cultures in all their diversity is to understand what it is to be human.

Unfortunately, such study has too often been skewed to a single perspective while more inclusive perspectives have been labeled as somehow disloyal to the American tradition. The fact that racism is so prevalent in American society has until recently led many theorists to concentrate primarily on the study of specific ethnic groups, on their characteristics and unique contributions to the more general culture—usually described from a Euro-American or Anglo-American point of view.

By contrast, the history of the United States is actually the history of all the cultures that it comprises. Until recently, multicultural education has focused mostly on minority groups, even though Euro-Americans and Anglo-Americans also spring from a culture that was not originally and purely "American." Such skewing sets up the fallacy that Euro- and Anglo-American descendants are the "real" Americans while all others, particularly people of color, are culturally "different."

Classroom instruction in a multicultural context is enhanced when it involves students in learning about *themselves* first—through oral history projects, for example, in which children involve their parents, grandparents, and other older, living adults who can relate information about family backgrounds and histories. Shared in the classroom, such information becomes a powerful tool both for identifying similarities among students and for highlighting how they differ from one another in positive rather than negative ways.

In short, teaching multiculturally cultivates a school culture that celebrates diversity; supports mutual acceptance of, respect for, and understanding of all human differences; and provides a balanced viewpoint on key issues involved in such teaching. It provides students with a global, international perspective on the world in which they live. It seeks to eliminate racial, ethnic, cultural, and gender stereotypes and to resolve or ameliorate problems associated with racism and prejudice. And it underscores the importance of teaching ethics, values, and citizenship in promoting the democratic heritage of the United States.

Resources

Au & Kawakami, 1985; Banks, 1990; Bennett, 1986; Bloom, 1985; Collins, 1988; Dillon, 1989; Fullinwider, 1993; Hall, 1989; Hollins, 1993; Kendall, 1983; Quellmalz & Hoskyn, 1988; Taylor & Dorsey-Gaines, 1988; Tiedt & Tiedt, 1986.

Strategy 1.9:

Use alternative assessments.

The student report card is no longer the primary measure of success in schooling. The general vocabulary of education in the United States now includes a whole range of assessment terms: adequate yearly progress, SAT, standardized tests, norms, criterion references, outcomes, portfolios, and on and on. Little wonder that teachers and administrators feel pressured by the demands of "assessment" and harried by the clamor and misunderstanding that surround the term today.

Various modes of assessment yield critical and useful information to inform and shape tools and methods that promise to improve academic achievement. "Why do we evaluate students?" ask Rasbow and Hernandez (1988). Among the answers are to determine the following:

- If objectives have been achieved.
- The knowledge and skills that students have acquired.
- Areas in which the curriculum needs improvement.
- The effectiveness of a teaching process or methodology.
- Student responses to specific aspects of the curriculum.
- Students' ability to use knowledge and skills.

Evaluations are also used to do the following:

- Design instruction for individuals, groups, or entire classes.
- Diagnose a student's level of understanding before recommending further instruction on a given topic.
- Gather information on the quality of the learning environment.
- Guide the direction of future study.
- Summarize an activity, topic, or unit of work.
- Provide a basis for extra help where needed.
- Identify the most useful information to communicate to students and parents.

Traditional assessment techniques and instruments for filling one or another of those roles are as familiar to most teachers as they are widespread in use: the National Assessment of Educational Progress, the SAT, norm- and criterion-referenced tests (some mandated by state legislatures, and even by the federal government), standardized tests in specific subject areas (the Stanford, the California, and the Metropolitan, among others), performance scales, and checklists. And, of course, among teacher-made instruments, examples include the essay exam and the ubiquitous multiple-choice test.

Researchers and curriculum specialists have emphasized the power of various alternative methods of assessment, such as the following:

- Exhibitions or demonstrations that serve as culminating activities in a student's learning experience.
- Observation and analysis of hands-on or open-ended experiences.

• Portfolios (collections of records, letters of reference, samples of work, sometimes even including videotapes of student performance or task accomplishment—in fact, any evidence that appropriately documents a student's skills, capabilities, and past experiences).

If two of the primary purposes of assessment are to determine whether the goals of education are being met and to inform various stakeholders of the progress of education, then assessment techniques should be sufficiently varied to perform these functions as appropriately and accurately as possible. Those goals vary, after all, from broad national goals to the individual teacher's lesson plan. They encompass diagnoses of ability or style in teaching and learning, measurements of proficiency and achievement of individual students or entire classes, and the effectiveness of entire schools, districts, state systems, or national programs. The audiences for assessments may include students, teachers, parents, policymakers, colleges, and businesses. Some assessments serve gatekeeping roles—college admission tests, for instance.

Some assessment methods reflect some of what we have come to realize are preferred teaching practices; consequently, they contain activities that are congruent with and that support good instruction. They tend to invite diverse responses and to promote a range of thinking—hands-on science and mathematics problem-solving activities, for example. In some cases, assessment tasks may extend over several days, allowing students to reflect on their work, to polish and revise it. Some assessments give students the opportunity to respond in any of several ways, including writing, drawing, and making charts or graphic organizers.

In general, trends indicate that alternative assessment tends to do the following:

• Use a variety of progress indicators, such as projects, writing samples, interviews, and observations.

• Focus on an individual's progress over time rather than on one-time performance within a group.

• Bring teachers into conference with students about their work and progress, helping students to evaluate themselves by perceiving the results of their own work.

Resources

Association for Supervision and Curriculum Development, 1992; Buechler, 1992; Grace, 1992; Hewitt, 1993; Johnson, 1993; Lockwood, 1991; Marzano et al., 1992; Marzano, Pickering, & McTighe, 1993; Perrone, 1991; Rasbow & Hernandez, 1988; Schnitzer, 1993; Sweet & Zimmerman, 1992; Worthen, 1993.

Strategy 1.10:

Promote home/school partnerships.

Years ago, the professionals at Harlem Park Middle School in Baltimore realized the vital importance of taking parental involvement seriously. They added three parent coordinators to their staff and located them full-time in the neighborhoods the school serves rather than in the school building itself. Living and working in those neighborhoods, the coordinators helped to fight a steady rise in the school's dropout rate

by teaching parents how to keep their children in school, help with homework, keep track of progress, and work with school representatives before a crisis develops.

In Mesa, Arizona, school officials recognized that parenthood is 18 years of on-the-job training. So they organized a "Parent University," filling a Saturday schedule with 40 workshops ranging from creative art activities for preschoolers, to helping young people survive junior high, to financing a college education. More than 800 people attended (Education Leaders Consortium, 1989).

The list of ways in which school people have come to grips with the need to bring home and school together for the good of the children varies widely across the United States, limited only by the resourcefulness and imagination of the people in each school and district.

Epstein (1989) outlines several broad avenues by which parents and schools can share in a child's development. Parents have the basic obligation to provide food, clothing, and shelter; to ensure a child's general health and safety; and to provide child rearing and home training. But parents can also provide school supplies, a place for schoolwork at home, and positive home conditions for learning. The school, in turn, is obliged to communicate to the home such important information as school calendars; schedules; notices of special events, school goals, programs, and services; school rules, codes, and policies; report cards, grades, test scores, and informal evaluations; and the availability of parent/teacher conferences.

Parents can be directly involved in the work of the school: assisting teachers and students with lessons; chaperoning class trips; participating in classroom activities; aiding administrators, teachers, and school staff in the school cafeteria, library, laboratories, and workshops; organizing parent groups in fund-raising, community relations, political awareness, and program development; attending student assemblies, sports events, and special presentations; and participating in workshops, discussion groups, and training sessions. Parents can involve themselves in learning activities at home by developing a child's social and personal skills and by contributing to basic-skills education, development of advanced skills, and enrichment.

In governance and advocacy, parents can assume decision-making roles in parent-teacher organizations, on advisory councils, or through other committees and groups at the school, district, or state levels. They can become activists in monitoring schools and by working for school improvement.

Among private philanthropic organizations, the Rockefeller Foundation funded a $3 million effort to launch a project that incorporated the pioneering practices of James Comer, a child psychiatrist at Yale University. The Comer Model is based on the belief that parental involvement is the cornerstone of effective and responsible school change. Comer maintains that one cannot separate academic development from the child's social and cultural background. Thus one of several programs within the project has emphasized a school's obligation to work

cooperatively with parents and mental health professionals in meeting the needs of children.

Williams and Chavkin (1989) report that successful home/school programs tend to share seven characteristics: (1) they are guided by written policies; (2) they enjoy administrative support; (3) they include training of staff, parents, or both; (4) they take a partnership approach; (5) they maintain two-way communications; (6) they encourage networking; and (7) they are constantly informed and reshaped by project evaluation.

Having abstracted and reviewed nearly 50 studies of home/school cooperation, Henderson (1987) reached the following conclusions:

- The family provides the primary educational environment.
- Involving parents in their children's formal education improves student achievement.
- Parent involvement is most effective when it is comprehensive, long-lasting, and well planned.

The benefits of family involvement are not confined to early childhood or the elementary levels of schooling; strong effects result from involving parents continuously throughout high school. Henderson also concluded that involving parents in their own children's education at home is not enough. To ensure the quality of schools as institutions serving the community, parents must be involved at all levels of schooling. Moreover, children from low-income and minority families have the most to gain when schools involve parents. Parents can help, regardless of their level of formal education.

We cannot look at the school and the home in isolation from one another. We must see how they interconnect with each other and with the world at large.

Resources

Becher, 1984; Comer, 1980; Education Leaders Consortium, 1989; Epstein, 1987, 1989; Epstein & Dauber, 1991; Goodson & Hess, 1975; Henderson, 1987; Leler, 1983; Steinberg, 1988; U.S. Department of Education, 1990; Williams & Chavkin, 1989.

Strategy 1.11:

Use accelerated learning techniques.

In *Empowering the Spectrum of Your Mind*, Colin Rose (1985) declares that most of us are probably using only 4 percent of the enormous potential of our brains. "The more you use your brain," he maintains, "and the more facts and experience you store, the more associations and connections you make. Therefore, the easier it is to remember and learn yet more new material."

Once considered appropriate for use almost exclusively with students identified as gifted and talented, accelerated learning has come to be regarded as effective with students of any level of performance or ability. How does one "accelerate learning"? What is the theory behind the phrase? Rose (1985) begins with a seemingly obvious fact: no learning can take place without memory. How does one best encode things into memory? By creating concrete images of sights, sounds, and feelings, and by the strong association of one image with another. The stronger the original encoding, the better the ultimate recall.

"To achieve good memory," Rose writes, "you need to link a series of facts or ideas together, so that when one is remembered, it triggers recall for a whole series of others."

Thus, an ideal learning pattern involves the following steps:

- Immediate rehearsal of new facts in the short term.
- Repetition or testing of the facts a few minutes later.
- Review of the facts an hour later.
- A short recap of them after a night's rest. (Sleep appears to help memorization; new information is reviewed during REM—rapid eye movement—sleep.)
- Short review a week later.
- Short review a month later.

Rose claims that such a schedule of learning can enable the recall of up to 88 percent of the new information an individual receives—four times better than the usual rate of recall.

Among techniques recommended by advocates of accelerated learning are the following:

- Chunking, that is, reducing new information to manageable bits—a chunk no longer than seven words or seven digits, for instance.
- Use of music and rhyme as aids to memory.
- Peripheral learning and the use of memory maps to encourage association, and thus recall.
- Encoding as specifically as possible by principles rather than through isolated examples by rote.
- Psychiatrist Georgi Lozanov (Lozanov & Gateva, 1988) urges maintaining an upbeat classroom presentation at all times, with constant attention to physical surroundings, self-esteem, goals and outcomes, competition, right and wrong answers, and individual learning styles, expectations, and outcomes.

Resources

Galyean, 1983; Levin, 1988a, 1988b, 1991a, 1991b; Lozanov & Gateva, 1988; Means & Knapp, 1991; Pritchard & Taylor, 1980; Richardson, 1988; Rose, 1985; Russell, 1975; Schuster, 1985.

Strategy 1.12:

Foster strategies in questioning.

The classroom "discussion" dragged on. Predictably, the teacher asked one factual-recall question after another about the short story at hand. Each question invariably elicited a right-or-wrong answer from one, and sometimes two, student volunteers. Then the teacher reached that point in the story where the main character faced what seemed like a life-or-death personal dilemma. "I wonder how many of you have ever faced such a situation," the teacher remarked offhandedly. Hands shot up all around the room, some flapping in urgency. "Oh, my! I'm afraid I've touched some raw nerves," the teacher exclaimed. "Let me withdraw the question." All the raised hands dropped. So did the students' attention to the topic.

That teacher couldn't have read Lehr and Harris's *At-Risk, Low-Achieving Students in the Classroom* (1988). The authors suggest (and

their suggestions are well supported by research) how even the timeless classroom practice of questions from the teacher can be adapted to elicit individual involvement rather than passive response. They also show how to follow through for even greater student participation and response. Their advice, in part, includes the following suggestions (pp. 43–44):

- Structure questions so that students can succeed.
- Encourage students to respond. (Most teachers answer two-thirds of their own questions.)
- Ask questions in all modes. (Most questions are asked at the level of basic recall or recognition. Questioning that is more complex increases student achievement.)
- Pause. The number and quality of student answers increase when teachers provide wait time of three to five seconds after asking a question. Appropriate wait time is particularly important in teaching low achievers. Some higher-level questions might require as much as 15 to 20 seconds of wait time.
- Call on students randomly, but be sure not to forget the low achiever.
- If a student's response is vague, call for clarification or elaboration—for example, "Tell me more." Probe students to encourage higher levels of thinking.
- Encourage students to develop and ask their own questions, thus increasing their opportunities for thinking.
- Use techniques that require students to pose their own questions and to make discoveries on their own. For example, ask students in a science class to make predictions, based on their own experiences, before a demonstration or an experiment. The processes of observing, comparing, and describing are as important as the product.

Other studies of questioning techniques suggest that teachers break the total content of their questioning into bits small enough so that students are assured of being able to answer at least three-quarters of the questions correctly. They urge a high proportion of questions that are well beyond mere factual recall—questions that encourage interpretation or that challenge critical thinking.

Questioning need not simply follow a lesson or an assignment as a means of checking to see if students have completed or understood it. Reading specialists, for instance, have long advocated the use of prereading questioning techniques, using teacher- or student-generated questions to develop background knowledge, to preview key concepts, and to set purposes for the reading. Questioning after reading should provide students with opportunities to practice or rehearse what they have learned from the text, as well as increase associations between textual information and their own background knowledge ("Questioning Promotes," 1987).

To stimulate student discussions, Dillon (1984) suggests a three-step process:

- Carefully formulate one or two questions to get the discussion going.
- From then on, ask questions only when perplexed and genuinely in need of more information.

• Then make more statements that present facts or opinions, reflect students' opinions to them, register confusion, or invite elaboration and student-to-student exchanges.

Student-generated questions and student-led discussions give students a higher stake and interest in their classroom activities and learning. Framing their own questions requires young people to interact with the meaning of content or text from a variety of perspectives. Generating their own questions, they support and challenge each other and recognize the social aspects of exploring the meaning of what they encounter in reading or in other learning activities.

Teachers need to model effective questioning and discussion strategies, including how to interact with others as well as how to think about and discuss text or content. Touch a raw nerve now and then—not to aggravate, but to stimulate!

Resources

Adams, 1986; Carlsen, 1991; Dillon, 1984; Goatley & Raphael, 1992; Lehr & Harris, 1988; "Questioning Promotes," 1987; Roberts & Zody, 1989; "Teachers' Questions," 1987.

Strategy 1.13:

Emphasize brain-compatible instruction.

Think of your most recent drink of water. Exactly what steps did you follow in taking it? What facts, what prior experiences, what understandings did you call on? It's been estimated that you performed 50 or so actions while taking that drink of water. Did you think of all 50—that is, did you bring any of them, in isolation, to the forefront of your consciousness while drinking?

Probably not. Your brain handled all the necessary steps for you! At the same time, your brain was probably helping you consider your plans for the weekend, reminding you of the slight soreness in your left thumb, telling you it was a warm afternoon, and juggling countless other "programs"—chains of thought needed to accomplish some foreseen goal, whether soaking your thumb or quenching your thirst (Della Neve et al., 1986).

Brain-compatible instruction builds on the notion that the human brain operates as an incredibly powerful parallel processor, always doing many different things simultaneously (Caine & Caine, 1991). The brain is capable of such a vast number and array of functions that its functioning can be visualized most easily only in terms of programs and patterns—one program, perhaps, for getting a glass of water at the kitchen sink, a different program for sipping from the water fountain outside your classroom door.

How does the brain differentiate among the vast array of programs it stores? By recognizing an apparently endless number and variety of patterns among them. Thus "brain-compatible instruction defines learning as the acquisition of useful programs," write Della Neve and her colleagues (1986). "The human brain is exceedingly intricate. For educational purposes, however, what counts is a broad, holistic understanding of what the brain is for (it did not evolve to pass tests or fill in worksheets), its principal

architecture, its main drives, and its way of relating to the real world."

Carnine (1990) describes some of the misunderstandings that can result in teachers, students, or both after "brain-antagonistic" instruction:

> Very young children know that the name of an object stays the same even after the orientation of the object has changed. For example, when a chair is turned to face the opposite direction, it remains a chair.
>
> Consequently, in preschool, when a *b* is flipped to face the opposite direction, children often assume that it still goes by the name of *b*. Making this error doesn't necessarily imply that a student's visual brain function is weak or that the student would benefit from a kinesthetic approach to learning lowercase letters. Extensive research has shown that students are more likely to confuse objects and symbols that share visual or auditory sameness, such as *b* and *d*.
>
> In solving simple computation problems, such as 24 + 13, 1st graders learn that they can start with the bottom number in the units column or with the top number: 4 + 3 equals 7, and so does 3 + 4. The sameness they note is that these problems can be worked in either direction, from top to bottom or the reverse.
>
> Soon thereafter come subtraction problems, such as 24 – 13. Students can still apply the sameness learned in addition, thinking of the difference between 4 and 3 or between 3 and 4 and always subtracting the smaller number from the larger. However, when students encounter a problem such as 74 – 15, applying the sameness noted earlier leads them to subtract the smaller from the larger number and come up with the answer 61. Such a mistake is a sensible application of a mislearned sameness. . . .

"The brain's search for samenesses," Carnine concludes, "has little regard for the intentions of educators." At the same time, he notes that although the brain's relentless search for patterns helps explain certain common student misconceptions, it can also help educators develop more effective classroom activities.

Della Neve and her colleagues at Drew Elementary School developed their own seven principles, which serve as focal points to guide teachers in designing and implementing brain-compatible instruction:

1. Create a nonthreatening climate.
2. Input lots of raw material from which students can extract patterns—a vast array of activities, aided by an ample supply of materials, equipment, and print and audiovisual resources.
3. Emphasize genuine communication in talking, listening, writing, and reading as ways to interact with other people.
4. Encourage lots of manipulation of materials. Students need to be in command and able to push things around, encouraging them to work toward goals and explore a range of means.

5. Emphasize reality. By using problems, examples, and contacts drawn from the "real world" rather than contrived exercises, texts, worksheets, and basal readers, students can see the real value of their own learning.

6. Address learning activities to actual, productive uses.

7. Respect natural thinking, including intuitive leaps, a grasp of patterns (as in number tables or good writing), and aesthetic and nonverbal interests and activities.

"Brain-based instruction," Caine and Caine (1991) warn us, "stems from recognizing that the brain does not take logical steps down one path like an analog computer, but can go down a hundred different paths simultaneously like an enormously powerful digital computer." They add, "Each brain is unique. Teaching should be multifaceted to allow all students to express visual, tactile, emotional, and auditory preferences. Providing choices that are variable enough to attract individual interests may require the reshaping of schools so that they exhibit the complexity found in life."

Resources

Bateson, 1980; Caine & Caine, 1991; Campbell, 1989; Carnine, 1990; Cousins, 1989; Della Neve, Hart, & Thomas, 1986; Hart, 1983, 1986; Vygotsky, 1962, 1978.

Strategy 1.14:

Activate students' prior knowledge.

Activating students' prior knowledge—through the use of schema theory, for example—helps youngsters integrate new knowledge and skills with their own experiences. By doing so, teachers acknowledge that all students, regardless of their background, bring a wealth of knowledge to learning. The kind and amount "of knowledge one has before encountering a given topic in a discipline affects how one constructs meaning," writes Gaea Leinhardt (1992). "The impact of prior knowledge is not a matter of 'readiness,' component skills, or exhaustiveness; it is an issue of depth, interconnectedness, and access. Outcomes are determined jointly by what was known before and by the content of the instruction" (pp. 51–56).

Consequently, it just makes sense for teachers to begin by learning what students already know about a topic, thus preventing youngsters from having to repeat what they already know or trying to build on knowledge they do not yet possess. Connecting new knowledge to previous learning builds a strong foundation for future learning; it also gives teachers valuable opportunities to correct misperceptions. Modifying activities to suit learners' preferences helps them construct new understandings.

When tapping into students' prior knowledge, teachers recognize that the most effective means of learning is discovery, and the most effective means of teaching is modeling. Modeling by the teacher is one of many powerful tools

for activating prior knowledge. Depending on the task, the teacher decides what prior knowledge needs to be activated and asks students to develop and answer questions that cause them to activate it. The teacher then proceeds to model appropriate questioning processes. Activating students' prior knowledge engages them more actively in learning, in generating their own questions, and in leading their own discussions.

Another strategy that effectively activates students' prior knowledge, allowing them to explore what they already know about a topic, is the K-W-L activity, first developed by Donna Ogle. This strategy asks students to identify what they already *k*now about a topic, *w*hat they would like to learn, and, at the conclusion of the unit, what they actually did *l*earn.

Teachers can encourage students to develop a list of questions they would like to answer. (Teacher modeling helps students form these questions.) Teachers can then assist students in clustering similar questions and in deciding which questions to answer by further explaining the content to be learned. The teacher and students design a plan to find the answer for each question. Allowing students to work in cooperative and collaborative groups is effective because such groups encourage students to share their answers and the rationale behind the answers. During the sharing, the teacher has an opportunity to correct student misunderstandings.

In exploring new topics, students can experience a variety of active, experiential, or authentic assignments. Such assignments—for example, manipulating objects or concepts, engaging in product-oriented activities, and participating in real-life experiences that actively construct knowledge—allow youngsters to explore concepts in some depth and to make discoveries on their own. The opportunity to apply new learnings to real-life contexts that reflect the students' world helps them retain and effectively use new concepts and skills.

Strategy 1.15:

Use a constructivist approach to teaching.

Many of the approaches to teaching and learning that appear in this book challenge the traditional model of schooling, which demands that students receive knowledge solely from the teacher. In explaining the nature of the "pedagogy of poverty," Martin Haberman (1991) notes that teachers and students are engaged in fundamentally different activities: teachers teach and students learn. But what if teachers join students as fellow learners searching for answers to real-life problems or for ways to describe and generalize scientific phenomena?

Another means of creating what might be called a pedagogy of plenty is to embrace a constructivist approach to teaching. Constructivism emphasizes an understanding of how and why students (and adults) learn; it provides a way to combine good teaching and learning practices. These practices include activating students' prior knowledge; providing a variety of active learning resources; using a variety of hands-on, minds-on activities; engaging youngsters in a variety of cooperative learning

experiences; allowing students to formulate questions and discover concepts that can guide future learnings; asking students to think aloud while approaching a task; modeling powerful thinking strategies; and providing students with opportunities to apply new learnings within the context of real-life activities.

Such an instructional setting honors the importance of hands-on and "heads-on" experiences in learning. For students to learn to reason about their world, they must be constantly encouraged to ask questions and to solve problems that have meaning to them. Teachers can provide a wide variety of activities to help students construct—and reconstruct—their new learning in their own terms, as they begin to realize that knowledge is created out of life experiences.

Constructivist theory suggests that the goal of schooling is not simply acquiring specific knowledge and expertise, but rather *building understanding*. Learning how to learn becomes the goal. Considered from a constructivist viewpoint, the learning environment is a laboratory that provides the tools to support learners in their quest for understanding. In this approach, teachers facilitate learning by providing appropriate activities such as modeling and questioning techniques in well-designed, well-organized, well-managed classroom environments that allow students to construct their own understandings of concepts.

Constructivist teaching is best facilitated though the use of varied learning configurations. Providing students with opportunities to work in collaborative or small-group learning activities helps them to construct their own knowledge. Students have the opportunity to listen to other points of view, debate, discuss, and form insights into new ideas while working collaboratively with their peers. Such activities must also activate students' prior knowledge to help them develop questioning skills.

Strategy 1.16:

Organize instructionally effective classroom environments.

When the classroom environment encourages growth and development, students will respond. Instructionally effective environments offer youngsters a wide variety of powerful experiences, which include ways of interacting with and learning from one another in instructional areas that support experiential, problem-based, active learning. Creating such environments calls for the teacher to construct and allow cooperative, collaborative strategies.

Classroom design simply means arranging the room to make the best use of space and to create a comfortable learning climate—both physically and psychologically. Classroom management reflects the ways in which the teacher orchestrates high-quality instructional activities that help children take charge of their learning and eliminate unwanted behavioral and discipline problems.

Classroom Design

Our school system was invented to provide a sit-and-learn process of education. In 1915, for

instance, John Dewey reportedly described the difficulties he encountered during an exhaustive search for furniture "suitable from all points of view—artistic . . . and educational—to the needs of children." According to the account, Dewey finally met one school-supply dealer who admitted, "I'm afraid we do not have what you want. You want something at which children may work; these are for listening."

Amazingly, little has changed in U.S. classrooms since Dewey's time. Regardless of individual differences, many, many children are still expected to sit on a hard seat, not move, and not speak—just listen and answer questions.

Research strongly supports the important role of environmental preferences in students' motivation and their ability to learn. The *quality* of the environment in which we live and work is vitally important. Individuals tend to respond to their physical environment first in terms of personal comfort. Harmony makes it easier to concentrate and remember information.

The proper use of space within a classroom generates student activity and learning. Room arrangement, for example, allows students to work at computer stations, engage in small-group work, engage in project-based learning, and use multimedia equipment for individual or group activities. Appropriate classroom design empowers teachers to create instructional areas, such as learning and interest centers and media centers, that offer students varied learning opportunities and accommodate individual learning needs and interests.

Well-designed classrooms display high levels of student cooperation, academic success, and task involvement. Teachers work to develop intrinsic motivation in students, which is essential to creating lifelong learners. Thus effective classroom environments create multiple learning situations capable of addressing students' diverse characteristics to enhance their satisfaction and academic performance. Such classes are child centered; they meet young people's instructional needs by exposing them to a variety of highly motivating, stimulating, multilevel instructional activities.

Current research in the functioning of the brain confirms that we learn best in a rich, multisensory environment. We learn more about people by interacting with them in real-life contexts. We learn more meaningfully when we are fully immersed in the learning experience. Therefore, we should provide students with active learning experiences that incorporate a wide variety of materials, including high-quality, well-written literature.

Powerful learning activities are most likely to occur in a highly organized learning environment. When orchestrating such a setting, it is important to keep in mind how instruction will be reinforced, reviewed, and enriched to extend youngsters' learning potential; how procedures for completing assignments, working, locating instructional resources, and acquiring assistance will be facilitated; and how students will evaluate their own performance and that of others.

Classroom Management

Making a classroom an effective educational tool depends on creating not only a physically comfortable environment that supports

instructional goals but also one that is emotionally, socially, psychologically, and physically safe. Classrooms should be places where a child can think, discover, grow, and ultimately learn to work independently and cooperatively in a group setting, developing self-discipline and self-esteem. At the heart of an emotionally safe learning environment is cooperation—among staff, students, and other stakeholders.

Cooperation leads to ownership, involvement, and great opportunities for student self-discipline, says Jerome Freiberg (1996)—but first must come *trust*. Students learn to trust through opportunities to take ownership of and responsibility for their own actions and those of others. Strategies to promote cooperation include establishing rules and regulations (with the assistance of students) for codes of behavior and conduct; talking about consequences of behavior; offering youngsters training in peer mediation and conflict resolution; creating rotating classroom management positions, with clearly outlined responsibilities; and helping youngsters develop norms of collaboration and social skills to enable them to work effectively in groups.

When children are truly engaged in learning and the approach to discipline is an active one, teachers do not have to waste valuable time dealing with disciplinary issues. When learning becomes less meaningful to students' lives, less interactive, or less stimulating, teachers increasingly need to control their students; in the process, they unwittingly create opportunities for undesirable student behaviors.

Teachers who try to impose too many rules, too much rigidity, and too many uniform activities quickly lose control. Teachers who can bring themselves to share power and confidence with their students gain more control. That is exactly why teachers should concentrate on creating conditions in which students can and will manage themselves.

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Education







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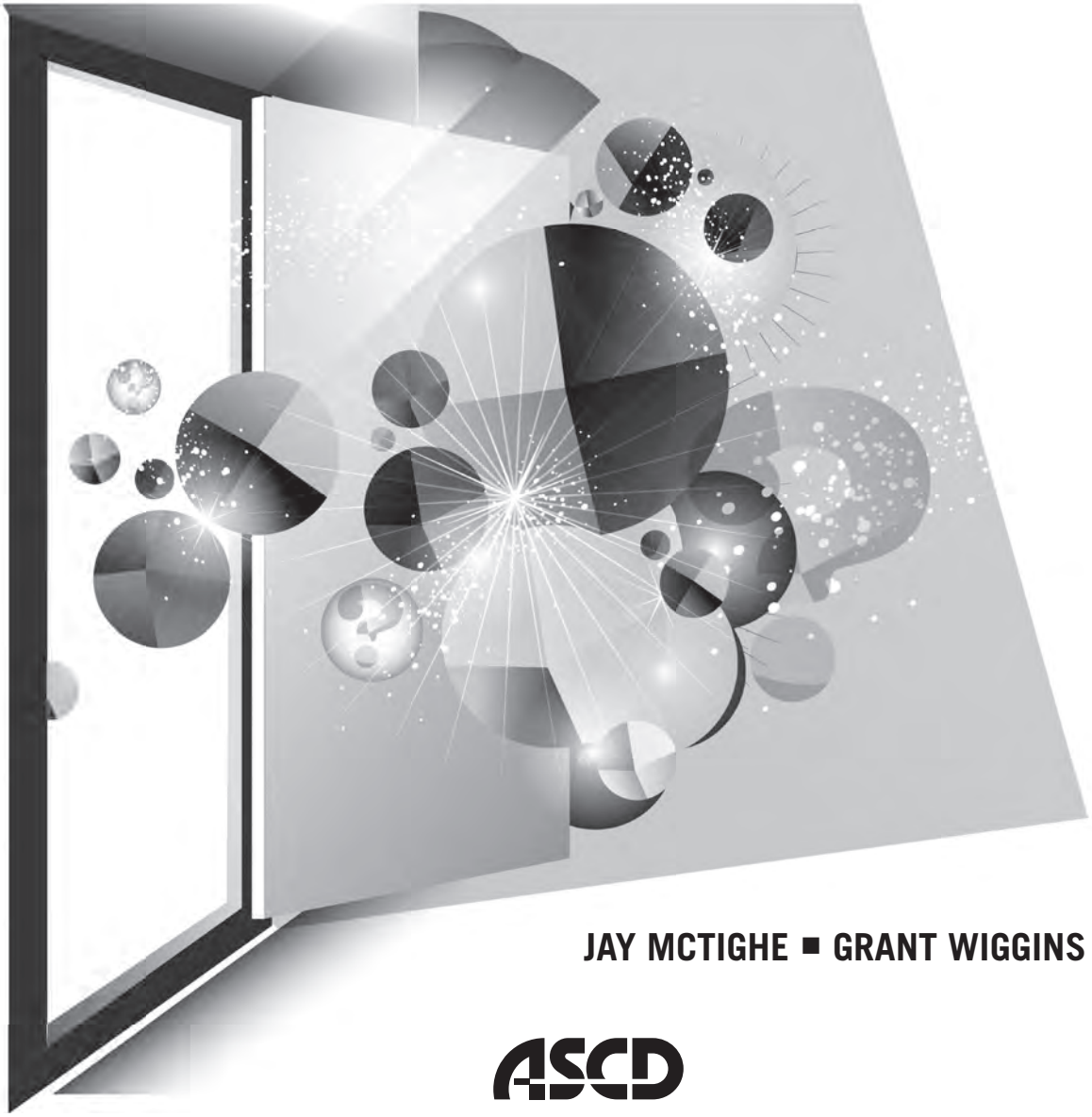

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ESSENTIAL QUESTIONS

Opening Doors to Student Understanding

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Foreword

We are off and running from the opening page. Plunging right into what matters most, Jay McTighe and Grant Wiggins engage us in an exercise to determine what is *not* an essential question. They ask us to deliberate. We stop, think, and reflect on crafting our questions and consider the impact linguistic choices have on our learners. As readers, we are immediately drawn into vibrant inquiry.

Arguably, questioning is the most timeless and fundamental stratagem employed by teachers from Confucius to Aristotle to Descartes to provoke learners. In the past 20 years, the role of the essential question has risen as a curricular compass, setting the pathway for the learner, due in no small measure to the power of models such as Understanding by Design. The demand for high-quality essential questions is ubiquitous, yet there is a chasm between good intention and the ability to write them well. With the current scrutiny on teacher effectiveness, the emphasis on standards alignment, and the renewed focus on formative assessment, the release of this book is exquisitely timed if not prescient. We need this book now.

Not only is this book a manual that teaches us how to style questions, it is an engaging treatise on transforming instructional inquiry. The authors' pedagogical exploration will directly serve our school-age learners by leading professional educators to revisit and refine practices. They employ fresh language that grabs our attention: "interrogating the content," "tentative closure," and "organizational culture of questioning." It is a riveting read. Deepening the investigation, the authors crystallize the notion that essential question formation is the study of a specialized and potent genre.

In their workshop presentations, Jay and Grant frequently employ sports analogies, and so it is that we are coached actively through these pages. Accessible and eminently useful, *Essential Questions* provides viable rationales for using essential questions, a defining range of essential question types, a design process for shaping

them, strategies for effective implementation, and considerations for special situations. We are mentored through a clear eight-phase model to construct questions, deliver them, and consider the responses of our students. The model is supported with myriad examples in clear tables and charts providing a user-friendly touchstone for classroom teachers and professional developers.

For those of us concerned about modernizing learning with digital tools, social media, and global connectivity, a central question is how to support student self-navigation. In this book I found a great revelation in the section on supporting student autonomy. Not only are we given support on how to bring essential questions into our interactions with learners, but we are also given thoughtful assistance on supporting independence for our students. The rubric for building student autonomy is a tremendous contribution to supporting emerging instructional approaches for this century.

Based on years of experience in schools across the United States and the world, Jay and Grant know that is not enough to create an essential question. The culture of each classroom determines whether risks are taken and meaning is made. A compelling discussion in the book is the exploration of how to cultivate a learning environment conducive to mutual respect and connection. We are coached on how to nurture this supportive culture in our classrooms and encouraged to ensure that these same characteristics are mirrored among faculty and school leadership. In a very real sense, Jay and Grant are integrating their work on *Schooling by Design* with their examination of the necessary cultural conditions to enliven essential questioning. They have refreshed and expanded the value of respectful discourse among professionals necessary for an "essential school" as the late Theodore Sizer espoused.

The book is a homage to collaboration. Admired for their models and prolific writing, Jay and Grant represent the power of intellectual kinship and collegial productivity. It has been my pleasure to know these gentlemen for many years, and I can only imagine the e-mail exchanges, the phone calls, the negotiations, the debates, and the serial epiphanies exuded in their compositional process. Yet, what is distinctive is that this book speaks with one voice and offers essential lessons from these teammates who are relentless investigative partners.

In a search for a synonym, I entered the word *essential* into a visual thesaurus application, and the word *marrow* emerged on my computer screen defined as "the choicest or most vital part of some idea or experience." For those educators seeking the choicest curriculum and vitality in learning, what we have in our hands is bound to be a classic cornerstone.

Heidi Hayes Jacobs
Curriculum Designers
The Curriculum 21 Project

1

What Makes a Question Essential?

Teachers regularly pose questions to their students, but the purpose and form of these questions can vary widely. This book is about a particular kind of question—one we call "essential." So, what makes a question "essential"? Let us begin by engaging you in a bit of inquiry using the following concept-attainment exercise to examine the characteristics of an essential question. The exercise has three parts, as explained in the next several paragraphs.

First, examine the questions in the two columns and try to determine the distinguishing characteristics of the ones labeled "Essential" compared to those labeled "Not Essential." What traits do the essential questions have in common? How do they differ from the others?

Essential Questions

- How do the arts shape, as well as reflect, a culture?
- What do effective problem solvers do when they get stuck?
- How strong is the scientific evidence?
- Is there ever a "just" war?
- How can I sound more like a native speaker?
- Who is a true friend?

Not Essential Questions

- What common artistic symbols were used by the Incas and the Mayans?
- What steps did you follow to get your answer?
- What is a variable in scientific investigations?
- What key event sparked World War I?
- What are common Spanish colloquialisms?
- Who is Maggie's best friend in the story?

Second, look at these additional examples, organized by subject area, to spark your thinking and clarify the qualities of essential questions, or EQs.

Essential Questions in History and Social Studies

- Whose "story" is this?
- How can we know what *really* happened in the past?
- How should governments balance the rights of individuals with the common good?
- Should _____ (e.g., immigration, media expression) be restricted or regulated? When? Who decides?
- Why do people move?
- Why is that there? (geography)
- What is worth fighting for?

Essential Questions in Mathematics

- When and why should we estimate?
- Is there a pattern?
- How does *what* we measure influence *how* we measure? How does *how* we measure influence *what* we measure (or don't measure)?
- What do good problem solvers do, especially when they get stuck?
- How accurate (precise) does this solution need to be?
- What are the limits of this math model and of mathematical modeling in general?

Essential Questions in Language Arts

- What do good readers do, especially when they don't comprehend a text?
- How does *what* I am reading influence *how* I should read it?
- Why am I writing? For whom?
- How do effective writers hook and hold their readers?
- What is the relationship between fiction and truth?
- How are stories from other places and times about me?

Essential Questions in Science

- What makes objects move the way they do?
- How are structure and function related in living things?
- Is aging a disease?
- Why and how do scientific theories change?
- How can we best measure what we cannot directly see?
- How do we decide what to believe about a scientific claim?

Essential Questions in the Arts

- What can artworks tell us about a culture or society?
- What influences creative expression?

- To what extent do artists have a responsibility to their audiences?
- Do audiences have any responsibility to artists?
- What's the difference between a thoughtful and a thoughtless critique?
- If practice makes perfect, what makes perfect practice?

Essential Questions in World Languages

- What should I do in my head when trying to learn a language?
- How can I express myself when I don't know all the words (of a target language)?
- What am I afraid of in hesitating to speak this language? How can I overcome my hesitancy?
- How do native speakers differ, if at all, from fluent foreigners? How can I sound more like a native speaker?
- How much cultural understanding is required to become competent in using a language?
- How can I explore and describe cultures without stereotyping them?

As a result of comparing essential and nonessential questions and studying the additional examples, you should now have an idea of what makes a question "essential." Here are seven defining characteristics. A good essential question

1. Is *open-ended;* that is, it typically will not have a single, final, and correct answer.
2. Is *thought-provoking* and *intellectually engaging,* often sparking discussion and debate.
3. Calls for *higher-order thinking,* such as analysis, inference, evaluation, prediction. It cannot be effectively answered by recall alone.
4. Points toward *important, transferable ideas* within (and sometimes across) disciplines.
5. Raises *additional questions* and sparks further inquiry.
6. Requires *support* and *justification,* not just an answer.
7. *Recurs* over time; that is, the question can and should be revisited again and again.

How does your working definition compare?

Questions that meet all or most of these criteria qualify as essential. These are questions that are not answerable with finality in a single lesson or a brief sentence—and that's the point. Their aim is to stimulate thought, to provoke inquiry, and to spark more questions, including thoughtful student questions, not just pat answers. They are provocative and generative. By tackling such questions, learners are engaged in *uncovering* the depth and richness of a topic that might otherwise be obscured by simply *covering* it.

Now we present the third part of the concept-attainment exercise. Using the characteristics we presented and those that you noted, which of the following questions do you think are essential? Why?

Question	Is it Essential?
1. In what year was the Battle of Hastings fought?	Yes/No
2. How do effective writers hook and hold their readers?	Yes/No
3. Is biology destiny?	Yes/No
4. Onomatopoeia—what's up with that?	Yes/No
5. What are examples of animals adapting to their environment?	Yes/No
6. What are the limits of arithmetic?	Yes/No

Check your answers against the key on page 15. How did you do? Are you getting a better feel for what makes a question essential? Good! Now we'll probe more deeply to uncover the nuances of EQs.

Two Sides of a Coin

Although we have characterized essential questions as being important for stimulating student thinking and inquiry, this is not their sole function. In the body of work known as Understanding by Design (McTighe & Wiggins, 2004; Wiggins & McTighe, 2005, 2007, 2011, 2012), we propose that education should strive to develop and deepen students' understanding of important ideas and processes so that they can transfer their learning within and outside school. Accordingly, we recommend that content (related goals) be unpacked to identify long-term transfer goals and desired understandings. Part of this unpacking involves the development of associated essential questions. In other words, EQs can be used to effectively frame our key learning goals. For example, if a content standard calls for students to learn about the three branches of government, then questions such as "When does a government overstep its authority?" or "How might we guard against governmental abuses of power?" help stimulate student thinking about why we need checks and balances, what the framers of the Constitution were trying to achieve, and other governmental approaches to balancing power. Note that the question has more than one answer, even if in the United States we have grown accustomed to our particular answer. In this sense, the question is still open, not closed.

We'll have more to say about how to come up with good essential questions in later chapters, but for now try this simple thought experiment. If the content you are expected to teach represents "answers," then what questions were being asked by the people who came up with those answers? This conceptual move offers a useful strategy both for seeing a link between content standards and important questions and for coming up with ways of engaging students in the very kind of thinking that is required to truly understand the content. In short, expert knowledge is the result of inquiry, argument, and difference of opinion; the best questions point to hard-won big ideas that we want learners to come to under-

stand. The questions thus serve as doorways or lenses through which learners can better see and explore the key concepts, themes, theories, issues, and problems that reside within the content.

It is also through the process of actively "interrogating" the content using provocative questions that students strengthen and deepen their understanding. For instance, a regular consideration of the question "How are stories from different places and times about me?" can lead students to the big ideas that great literature explores—the universal themes of the human condition underneath the more obvious peculiarities of personality or culture—and thus can help us gain insight into our own experiences. Similarly, the question "To what extent can people accurately predict the future?" serves as a launch pad for examining big ideas in statistics and science, such as sampling variables, predictive validity, degrees of confidence, and correlation versus causality.

At a practical level, think of targeted understandings and essential questions as the flip sides of the same coin. Our essential questions point toward important transferable ideas that are worth understanding, even as they provide a means for exploring those ideas. This associated relationship is suggested graphically in the Understanding by Design (UbD) unit-planning template, where targeted understandings are placed next to their companion essential questions. Here are some examples:

Understandings	Essential Questions
• The geography, climate, and natural resources of a region influence the economy and lifestyle of the people living there.	• How does *where* you live influence *how* you live?
• Statistical analysis and data display often reveal patterns. Patterns enable prediction.	• What will happen next? How sure are you?
• People have different dietary needs based on age, activity level, weight, and various health considerations.	• How can a diet that is "healthy" for one person be unhealthy for another?
• Dance is a language of shape, space, timing, and energy that can communicate ideas and feelings.	• How can motion express emotion?

Three Connotations of *Essential*

A finer-grained examination of such questions reveals three different but overlapping meanings for the term *essential.* One meaning of *essential* includes the terms "important" and "timeless." Essential questions in this sense arise naturally and recur throughout one's life. Such questions are broad in scope and universal by

nature. *What is justice? Is art a matter of taste or principles? How much should we tamper with our own biology and chemistry? Is science compatible with religion? Is an author's view privileged in determining the meaning of a text?* Essential questions of this type are common and perpetually arguable. We may arrive at or be helped to grasp understandings for these questions, but we soon learn that answers to them are provisional or more varied than we might have imagined. In other words, we are liable to change our minds in response to reflection, different views, and rich experience concerning such questions as we go through life—and such changes of mind are not only expected but beneficial. A good education is grounded in such lifelong questions, even if we sometimes lose sight of them while focusing on content mastery. Such questions signal that education is not just about learning "the answer" but also about learning how to think, question, and continually learn.

A second connotation for *essential* refers to "elemental" or "foundational." Essential questions in this sense reflect the key inquiries within a discipline. Such questions point to the big ideas of a subject and to the frontiers of technical knowledge. They are historically important and very much alive in the field. The question "Is any history capable of escaping the social and personal history of its writers?" has been widely and heatedly debated among scholars over the past hundred years, and it compels novices and experts alike to ponder potential bias in any historical narrative. Questions such as "How many dimensions are there in space-time?" and "To what extent are current global weather patterns typical or unusual?" are at the forefront of debate about string theory in physics and global climate change in climatology, respectively. The question "Is it more a sign of creativity or arrogance when a writer tries to tell a story from the perspective of a gender or culture different from his or her own?" has been energetically debated in the world of literature and the arts in recent years.

A third and important connotation for the term *essential* refers to what is vital or necessary for personal understanding—in the case of schooling, what students need for learning core content. In this sense, a question can be considered essential when it helps students make sense of seemingly isolated facts and skills or important but abstract ideas and strategies—findings that may be understood by experts but not yet grasped or seen as valuable by the learner. Examples include questions such as these: *In what ways does light act wavelike? How do the best writers hook and hold their readers? What models best describe a business cycle? What is the "best fit" line of these "messy" data points?* By actively exploring such questions, learners are helped to connect disparate and confusing information and arrive at important understandings as well as more effective (transfer) applications of their knowledge and skill. Consider a sports example. In soccer, basketball, football, lacrosse, and water polo, strategic players and teams come to understand the importance of asking "Where can we best create more open space on offense?" (Note that this question serves as a springboard for a strategic understanding—that spreading out the defense

enhances ball advancement and scoring opportunities.) It leads to the more obvious and important question: "How might we win more games?" Note, therefore, that even in skill-focused instruction such as in PE or math, there are important essential questions for helping students understand the point of the skills and the meaning of results. (We will further discuss EQs in skill-based courses in later chapters.)

Intent Trumps Form

You may have heard that so-called higher-order questions should begin with the stems *why, how,* or *in what ways.* Indeed, such question starters seem to signal inherently open-ended thought, inviting multiple responses. Do not assume, however, that all questions beginning with *what, who,* or *when* are necessarily asking for factual answers or that *why* questions are inherently higher-order. For example, consider these questions: *What is fair in economics? Who is a "winner"? When should we fight?* These are clearly not recall questions. They encourage thinking and discussion, and one's answers may evolve over time. Alternately, you could ask your class, "Why did World War II start?" but really be seeking the single answer that is provided in the textbook.

This consideration leads to a more general point: intent trumps form. *Why* you ask a question (in terms of the desired result of asking it) matters more than *how* you phrase it. No question is inherently essential or trivial. Whether it is essential depends on purpose, audience, context, and impact. What do you as a teacher intend for students to do with the question? Recall the earlier example "Is biology destiny?" It is framed in a way that to the uninitiated might sound closed or factual. But clearly we would ask it to spark interesting and pointed debate about what is and isn't predictable about human behavior and health. In other words, the essentialness of the question depends upon why we pose it, how we intend students to tackle it, and what we expect for the associated learning activities and assessments. Do we envision an open, in-depth exploration, including debate, of complex issues, or do we plan to simply lead the students to a prescribed answer? Do we hope that our questions will spark students to raise their own questions about a text, or do we expect a conventional interpretation?

In other words, if we look only at the wording of a question out of context, we cannot tell whether the question is or is not essential. Consider the question "What is a story?" Clearly, if we pose this question with the intent of having students give a textbook answer ("a story contains a plot, characters, setting, and action"), then the question (as pursued) is not essential in terms of our criteria. However, if the question is being asked to initially elicit well-known story elements but then *overturn* that conventional definition through a study of postmodern novels that lack one or more of these elements, then it functions in an "essential" manner.

Consider the same question—"What's the pattern?"—used in three classroom situations with very different intentions:

1. A 2nd grade teacher asks, "Boys and girls, look at the numbers 2, 4, 6, 8, ___. What comes next? What's the pattern?" In this case, the question is leading toward a specific answer (10).
2. An Algebra 1 teacher presents students with a set of data and asks them to plot two related variables on a graph. "What do you notice? What's the pattern?" In this case, the teacher is guiding the students to see a linear relationship in all the data.
3. A science teacher shows a data table of incidents of AIDS cases over a 15-year period, disaggregated by age, gender, region, and socioeconomic status. His question to students is "What's the pattern (or patterns)?" Instead of a pat answer, he intends to evoke careful analysis, reasoning, and spirited discussion.

Thus we cannot say a question is or is not essential based only on the language used in its phrasing. As noted, *who/what/when* questions, as well as those that seem to elicit a *yes/no* response, may spark impressive curiosity, thought, and reflection in students, depending upon how they are set up instructionally and the nature of the follow-ups. Consider these examples and imagine the lively discussion, sustained thinking, and insights they might evoke:

- Is the universe expanding?
- Is a democracy that suspends freedoms a contradiction in terms?
- Does Euclidean geometry offer the best "map" for the space we live in?
- Who should lead?
- Are imaginary numbers useful?
- Is *Catcher in the Rye* a comedy or a tragedy?
- What is the "third" world? Is there a "fourth"?
- When is mission accomplished and victory assured?

And as we noted, the notion of intent works the other way around. A teacher may pose an intriguing and *seemingly* open question yet expect a pat answer. In the worst cases, instructors display intellectual dishonesty when they ask for students' opinions on controversial issues but actually seek or highlight responses that they deem politically or morally correct.

This relevance of purpose or intent is more easily grasped if you think about your own response to thought-provoking questions. The best essential questions are really alive. People ask, discuss, and debate them outside school. They arise naturally in discussion, and they open up thinking and possibilities—for novices and experts alike. They signal that inquisitiveness and open-mindedness are fundamental habits of mind and characteristic of lifelong learners. In a more practical sense, a question is alive in a subject if we really engage with it, if it seems genuine and relevant to us, and if it helps us gain a more systematic and deep understanding of what we are learning.

Ultimately, then, we need to consider the larger intent and context of the question—including its associated follow-ups, assignments, and assessments—to

determine whether it ends up being essential. (We have more to say on the culture of inquiry needed to make the most of essential questions in a later chapter.)

Size and Scope Matter: Overarching Versus Topical EQs

Questions such as "What margins of error are tolerable?" are essential in yet another sense. They offer relevance and transferability across disciplines, linking not only to units and courses in measurement, statistics, and engineering, but also to areas as diverse as pottery, music, and parachute packing. Such questions encourage and even demand transfer beyond the particular topic in which we first encounter them. They can (and thus should) recur over the years to promote conceptual connections and curriculum coherence within (and sometimes) across topics and disciplines.

Essential questions (and companion understandings) differ in scope. For example, "What lessons can we learn from World War II?" and "How do the best mystery writers hook and hold their readers?" are typically asked to help students come to particular understandings around those specific topics and skills. Such questions are not usually meant to be perpetually open or unanswerable. They refer specifically to the topic of a unit, in these cases, World War II and the genre of writing called mysteries, respectively. Other essential questions are broad and overarching, taking us beyond any particular topic or skill, toward more general, transferable understandings. For example, "What lessons can we and can't we learn from the past?" extends well beyond World War II and can fruitfully be asked again and again over many years in several subject areas. Similarly, we need not inquire solely about how mysteries engage us. That topical question fits under the broader question that applies to all writers and artists: "How do the best writers and artists capture and hold our attention?"

We refer to specific essential questions as "topical" and the more general questions as "overarching." (The same idea applies to understandings.) Here are some paired examples of these two types of essential questions:

Overarching Essential Questions	Topical Essential Questions
• Whose "story" (perspective) is this?	• How did Native Alaskans view the "settlement" of their land?
• How are structure and function related?	• How does the structure of various insects help them to survive?
• In what ways does art reflect, as well as shape, culture?	• What do ceremonial masks reveal about the Inca culture?
• How do authors use story elements to establish mood?	• How does John Updike use setting to establish a mood?
• What makes a system?	• How do our various body systems interact?
• What are common factors in the rise and fall of powerful nations?	• Why did the Soviet Union collapse?

As you can see, the essential questions on the right focus on particular topics, whereas the companion questions to the left are broader in nature. (Although seemingly convergent, these topical questions still give rise to different plausible responses.) Notice that the overarching EQs make no mention of the *specific* content of the unit. They transcend particular subject matter to point toward broader, transferable understandings that cut across unit (and even course) topics.

Overarching essential questions (and understandings) are valuable for framing entire courses and programs of study (such as a K–12 health curriculum). They provide the conceptual armature for an understanding-based curriculum that spirals around the same EQs across the grades.

Metacognitive and Reflective Questions

The examples of essential questions that we have provided thus far have been primarily nested in academic disciplines. However, there is a more general set of EQs that may be described as metacognitive and reflective. Here are some examples:

- What do I know and what do I need to know?
- Where should I start? When should I change course? How will I know when I am done?
- What's working? What's not? What adjustments should I make?
- Is there a more efficient way to do this? Is there a more effective way to do this? How should I balance efficiency and effectiveness?
- How will I know when I am done?
- What should I do when I get stuck?
- How can I overcome my fear of making mistakes?
- What have I learned? What insights have I gained?
- How can I improve my performance?
- What will I do differently next time?

General questions of this type are truly essential to effective learning and performance, within and outside school. Such questions have proven particularly fruitful in subjects that focus on skill development and performance. Their use characterizes a thoughtful and reflective individual, and they can be posed and considered across the grades, as well as at home and throughout life.

Nonessential Questions

Various types of questions are used in schools, and most are not essential in our sense of the term (even if they all play useful roles in teaching). Let's look at three other types of common classroom questions: questions that lead, guide, and hook. In later chapters we will describe other types, including probing questions and questions used to check for understanding.

Questions That Lead

The legendary comedian Groucho Marx hosted a television quiz show in the 1960s called *You Bet Your Life.* Whenever a contestant missed all or most of the quiz queries, Groucho would pose the final face-saving question: "Who is buried in Grant's tomb?" (Alas, not all contestants could answer it!) This is a perfect example of a leading question because it points to and demands the single, "correct" answer. (We realize that lawyers and debaters define leading questions differently, but we think the term is apt for describing the teacher's motive: to elicit a correct answer.) Here are other examples of leading questions:

- What is seven times six?
- What did we say was true of all four-sided shapes?
- Who was the president at the start of the Great Depression?
- What is the chemical symbol for mercury?
- What's the relative minor key of A major?
- Which letters are vowels?

Leading questions allow a teacher to check that learners can recollect or locate specific information. Thus they have their place when recall and reinforcement of factual knowledge are desired. Another term for such questions is *rhetorical,* which usefully reminds us that they aren't real questions in an important sense. Their purpose is not to signal inquiry but to point to a fact. That's why lawyers and debaters routinely use rhetorical questions to direct attention to *their* point.

Questions That Guide

Another familiar type of question used by teachers (and found in textbooks) may be called "guiding." Consider the following examples:

- Is this sentence punctuated properly?
- Why must the answer be less than zero?
- How do we use the "rule of thirds" in photography?
- Can you state Newton's 2nd Law in your own words?
- When did the main character begin to suspect his former friend?
- What were the four causes of World War I? (This information is found on different pages in the text.)
- Which words tend to be feminine and which masculine in French?

Questions that guide are broader than questions that lead, but are not truly open-ended or designed to cause in-depth inquiry. Each of these questions is steering the student toward previously targeted knowledge and skill—to arrive at a definite answer. Yet the answer requires some inference, not simply recall. As such they are important tools for helping teachers achieve specific content outcomes.

Although such questions are familiar and useful, we do not consider them essential, as you will see if you check them against the seven criteria noted earlier. They may be fruitfully employed during one or more lessons, but they are not intended to set up a long-term inquiry and will not be revisited over an extended time period.

Questions That Hook

The best teachers have long recognized the value of hooking students' attention at the start of a new lesson, unit, or course. Indeed, clever opening questions can spark interest, capture imagination, and set up wonder. Although we most certainly encourage the use of questions that hook students' interest, they differ from essential questions. Consider two examples of "hooks" to see how they are distinguished from associated essential questions:

1. To open a unit on nutrition for 6th graders, a teacher poses the following question: "Can what you eat and drink help prevent zits?" This hook effectively captures students' interest and launches an exploration of the unit's broader EQ: "What should we eat?"
2. A science teacher in an Alaskan village uses this question to hook his students: "Are we drinking the same water as our ancestors?" Given the cultural reverence for ancestors and the significance of the ocean for survival, this is an elegant opener in the context of his school community. It is coupled with the companion essential question "Where does water come from and where does it go?" to spark ongoing inquiry into the relevant science.

Figure 1.1 provides examples that will help you to distinguish among the four types of classroom questions discussed in this chapter, and Figure 1.2 highlights the characteristics of each type.

Figure 1.1 Examples of Four Types of Classroom Questions

Content or Topic	Questions That Hook	Questions That Lead	Questions That Guide	Essential Questions
Nutrition	Can what you eat help prevent zits?	What types of foods are in the food groups?	What is a balanced diet?	What should we eat?
Novel Study on *Catcher in the Rye*	Do you know any teenagers that act crazy? Why do they act that way?	When (time period) and where (location) does the novel take place?	Is Holden normal? (Note: The main character is telling the story from a psychiatric hospital.)	What makes a story timeless? What "truths" can we learn from fiction?
Musical Scales	Do your parents like your music?	What are the notes of the C major scale?	Why would a composer use a major as opposed to a minor scale?	What distinguishes music from "noise"? What influences musical tastes (e.g., culture, age)?
Constitution/Bill of Rights	Do you agree with the "stand your ground" laws?	What is the Second Amendment?	Does the Second Amendment support "stand your ground" laws, according to the courts?	Which constitutional principles are timeless and which should be amended if outdated or outmoded (e.g., only white males were once seen as "persons")? Where is the balance between personal freedoms and the common good? Is the Fourth Amendment or any other parts of the Bill of Rights out of date?
Psychology/Human Behavior	Why do kids sometimes act stupid when they are in groups?	Who was B. F. Skinner? What is behaviorism?	What are the similarities and differences among behaviorism, Gestalt psychology, and Freudian psychology?	Why do people behave as they do?

Figure 1.2 Characteristics of Four Types of Classroom Questions

Questions That Hook
• Asked to interest learners around a new topic • May spark curiosity, questions, or debate • Often framed in engaging "kid language" • Asked once or twice, but not revisited
Questions That Lead
• Asked to be answered • Have a "correct" answer • Support recall and information finding • Asked once (or until *the* answer is given) • Require no (or minimal) support
Questions That Guide
• Asked to encourage and guide exploration of a topic • Point toward desired knowledge and skill (but not necessarily to a single answer) • May be asked over time (e.g., throughout a unit) • Generally require some explanation and support
Essential Questions
• Asked to stimulate ongoing thinking and inquiry • Raise more questions • Spark discussion and debate • Asked and reasked throughout the unit (and maybe the year) • Demand justification and support • "Answers" may change as understanding deepens

Summing Up

Classroom questions can be classified into different types, each with different, legitimate purposes. As you consider the appropriate types of questions to include in your teaching, we caution you, however, to distinguish between two connotations of the term *essential:* (1) essential to me in my role as a teacher, where questions that "hook" and "guide" are regularly employed, versus (2) essential for students to continuously examine so as to "come to an understanding" of key ideas and processes. We are using the second meaning in this book. Indeed, in an understanding-focused curriculum, we want more of the latter kinds of questions.

Now that you have a better understanding of what makes a question essential, we will look more closely at when and why we should pose them. (Note: Although you might "get" the idea of essential questions, it doesn't follow that you will necessarily be able to automatically develop great essential questions on your own. We will explore ideas for generating and refining EQs in Chapter 3.)

FAQs

My principal says that we should have at least one essential question for every lesson we teach. I am finding this very hard. Can you help?

In Understanding by Design, we have chosen the unit as a focus for design because the key elements of UbD—transfer goals, understandings, essential questions, and performances of understanding—are too complex and multifaceted to be satisfactorily addressed within a single lesson. In particular, essential questions are meant to focus on long-term learning and thus be revisited over time, not answered by the end of a class period. Not only would it be difficult to come up with a new EQ for every lesson; the predictable result would be a set of superficial (leading) or, at best, guiding questions.

Your principal is presumably well intended, but we would want her to distinguish between *using* EQs on a regular basis (we endorse that) and using a *new* one for each lesson. One or two truly essential questions can be used to frame the learning over the course of many lessons. Perhaps you should give your principal this book!

Answers and Commentary for Exercise on p. 4

Question	Is the question essential?	Commentary
1. In what year was the Battle of Hastings fought?	No	This is a factual question with a single correct answer.
2. How do effective writers hook and hold their readers?	Yes	This is a rich question for exploring the many facets of effective writing, including different genres, audience/purpose connections, writer's voice, and organizational structures.
3. Is biology destiny?	Yes	This is intended to be a thought-provoking, open question with many nuances (so don't be fooled by the phrasing).
4. Onomatopoeia—what's up with that?	No	Although the format of the question may wake up a sleepy student, it doesn't really open up worthy inquiry. At best, it can lead to a definition of a new term.
5. What are examples of animals adapting to their environment?	No	This is a useful question for helping students understand the concept of adaptation in various manifestations; however, there are specific answers that could be found in a book.
6. What are the limits of arithmetic?	Yes	This is an open question, widely applicable across mathematical topics across the grades; the question helps students come to understand an abstract yet important idea: mathematics involves tools and methods that have both strengths and limitations.

I'm confused about the difference between guiding and essential questions. Some of the questions you cited as essential—such as "What do the best writers do to hook and hold their readers' attention?"—seem to fit the definition of "guiding" questions: "Not open-ended or designed to cause in-depth inquiry. They are designed to focus learning of content or activities."

You're correct; the difference is a bit subtle. But it all goes back to intent, as we said in this chapter. If the aim is to arrive at a single, final, and not-to-be-questioned answer, then the point of the question is to guide learning toward that answer. But if the point is to *keep questioning,* even if we arrive at a provisional answer that makes sense, then the question is essential.

Foreword by Heidi Hayes Jacobs

WHAT ARE "ESSENTIAL QUESTIONS," AND HOW DO THEY DIFFER FROM OTHER KINDS OF QUESTIONS?

What's so great about them? Why should you design and use essential questions in your classroom?

Essential questions (EQs) help target standards as you organize curriculum content into coherent units that yield focused and thoughtful learning. In the classroom, EQs are used to stimulate students' discussions and promote a deeper understanding of the content.

Whether you are an Understanding by Design (UbD) devotee or are searching for ways to address standards—local or Common Core State Standards—in an engaging way, Jay McTighe and Grant Wiggins provide practical guidance on how to design, initiate, and embed inquiry-based teaching and learning in your classroom.

Offering dozens of examples, the authors explore the usefulness of EQs in all K–12 content areas, including skill-based areas such as math, PE, language instruction, and arts education. As an important element of their backward design approach to designing curriculum, instruction, and assessment, the authors

- Give a comprehensive explanation of why EQs are so important;
- Explore seven defining characteristics of EQs;
- Distinguish between topical and overarching questions and their uses;
- Outline the rationale for using EQs as the focal point in creating units of study; and
- Show how to create effective EQs, working from sources including standards, desired understandings, and student misconceptions.

Using essential questions can be challenging—for both teachers and students—and this book provides guidance through practical and proven processes, as well as suggested "response strategies" to encourage student engagement. Finally, you will learn how to create a culture of inquiry so that all members of the educational community—students, teachers, and administrators—benefit from the increased rigor and deepened understanding that emerge when essential questions become a guiding force for learners of all ages.

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Hanging In

Strategies for Teaching the Students Who Challenge Us Most



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Introduction

I was chairing an hour-long meeting with school administrators, teachers, therapists, and support staff. The group had convened to deal with a single issue: how Dean, a volatile 4th grader, could more successfully transition from class to class. Dean insisted on being first in line, argued over every expectation, and swore at staff as he quickly lost his temper. He was exhausting his teachers, classmates, and everyone who was called in to de-escalate him and then assess his readiness for rejoining his class. We hypothesized what triggered Dean's reactions. We reviewed his complex family history, his ability to cognitively understand directions, and his ability to physically manage the passage from one room to another. We reviewed what staff had been saying to him, what rewards and punishments had been tried (all so far without lasting success), what the quality of his relationships was with peers and school staff, and what our overlapping goals were for Dean and the school. By the end of the hour, we had synthesized our perspectives and developed a plan (the focus of Chapter 2 in this book). At that point, the principal turned to me and said, "That should do the trick." I sighed and responded, "There are no tricks."

There are no tricks to working with our most challenging students. If there were simple solutions to support their growth, the

students wouldn't be challenging. The professionals most responsible for dealing with these students—among many and most often, special education teachers, social workers, occupational therapists—do not have a secret cache of techniques. These professionals have received training in identifying disabilities and employing common interventions, but our most challenging students confound common solutions. These students crisscross categories of disabilities, challenging us to develop new and complex interventions, in combinations we have never tried before.

In examining the effect solely of trauma on students, Cole and colleagues (2005, p. 4) identify a long list of potential problems: decreased concentration, fragmented memory, poor organization, language deficits, perfectionism, depression, anxiety, and self-destructive behavior. It is reasonable to add to this list excessive absences, uneven skill development, and deficits in content knowledge. Now add a learning disability and all its possible presentations. There are no textbook cases that point to absolute interventions for students with such layered lists of issues. Each child is truly unique, and we can't "fix them" immediately.

The challenge for the staff is to hang in. Students like Dean can shed maladaptive behaviors for better ones, but not overnight. These students remind us that humans don't change as much as grow. We grow through support, useful feedback, trust, safety, and time. There is no guarantee that any intervention will work, and there are no guarantees that growth will happen within a given period of time. Hattie (2009), in summarizing his extensive studies on student learning, writes:

> Learning is spontaneous, individualistic, and often earned through effort. It is a timeworn, slow, gradual, fits-and-starts kind of process, which can have a flow of its own, but requires passion, patience, and attention to detail. (p. 2)

With no reliably predictable timetable for success, these students try our patience, arouse our emotions, and often bruise our

professional pride as teachers, problem solvers, and caretakers. Dean's difficulty transitioning between classes triggered anger in some staff. For others he provoked sadness—"When Dean is like that, I'd rather be any other person in the world than that little guy." For many, Dean brought up feelings of incompetence and despair. They were professional helpers, and Dean would not let them help; his failure became their failure. We have been schooling children for many centuries, yet a 10-year-old was baffling the experts. Mary Haywood Metz (1993) notes that students "can confirm or destroy" a teacher's "pride in craft." She explains the students' power: "Because teachers' work consists of affecting their students, they are dependent on their students both for the actual success of their work and evidence of that success" (p. 130).

We are in the infancy of understanding what works for every child, at the beginning stage of identifying practices that can cut across community, cultural, and personal contexts. Dean has no researched cohort—in his case, an upbringing in poverty with a single mother, a disabled older sibling, attention deficit disorder (ADD), advanced language skills, and the experience of having switched schools three times. His case is unique. So we hang in, take actions, reflect on progress, recalibrate, take more actions, collect our stories, and recalibrate again. We hang in. We may have to hang in through as many as 100 repetitions for a student to grow into new skills and for us to learn what works (Benson, 2012).

Everyone who hung in with Dean learned a lot, and we are all better at what we do because of that work. A challenging student provides one of the best means of reaching mastery in our field—but only when teachers themselves get support and safety, and when they are not dealing with many such students in isolation. Hanging in with challenging students can be so meaningful and reveal to us the richness and novelty of human relationships. What we experience in schools reinforces our uniquely human capacities to accommodate, synthesize, learn, and grow.

Storytelling

As I chaired the meeting about Dean, I knew we could not pull a manual off a shelf to find step-by-step directions to solve his problems. Instead, I combed through my years of teaching experience, looking for a student and set of conditions that resembled, in some key components, what was happening with Dean. I knew I would not find an exact match with his environment, *and* with his cognitive abilities, *and* with his chaotic life, *and* with his age. But I did find a promising story.

I said to the team, "I once worked with a student named Charlie, and we. . . ." With my storytelling, I was inviting the others to find similarities and differences, or as we might say in a basic English class, to compare and contrast the setting, the characters, and the primary conflict in Dean's story with the one I was telling about Charlie. The story about Charlie—who was 10 years older and of a different race, economic class, and cognitive ability—did spark our creative solutions for Dean. Buried within all those differences were important, but not so obvious, parallels. My expertise, born of experience and theory, was in identifying the parallels, the most salient aspects of one context with another. The group's collective wisdom pulled the relevant elements from Charlie's story into a useful intervention for Dean.

What I offer in this book are stories of hanging in, the practice-based evidence from working with our most challenging students, and the wisdom I have gleaned from each. Many of my experiences come from working in special education settings. The intimacy of small classes (8 students with one teacher) and of small schools (100 students) provides the opportunity to drill deeply into the complex layers of social, emotional, cognitive, cultural, economic, and environmental factors that make each student who he or she is. There is never one thing that defines a challenging student, never one cause, never one life event, never one disability. As noted above, if it were one thing, the solutions would be simple. One of my own

teachers confronted me with this important and demanding advice: "Keep the complexity as long as you can." My stories invite you to hang in with the complexities of our challenging students and to take action with no guarantees of immediately observable success. The only guarantee is more evidence that you can use with the next challenging student—because I can guarantee you, there will be another one who challenges your capacity to hang in.

With that evidence, we must work together along the path from stories to informed practice. Just as two people can have a different interpretation of the motives of Rick Blaine, Humphrey Bogart's character in *Casablanca*, team professionals will have many analyses of the root causes of a child's behavior and of what is to be learned from our interventions. The important work is to discuss and synthesize those perspectives while interactions with the student are still fresh. Once, in a meeting convened to develop an intervention with a particularly idiosyncratic student, I said, "This is a lot like our work with Harry a few years back." No sooner did I offer that bit of wisdom than hands shot up around the room with a chorus of, "No, this is not like Harry at all." We had never shared our various conclusions about what had caused Harry to be so challenging; with the passage of time, the team was unable to reconstruct the events in Harry's story in order to craft a shared understanding. Our stories are valuable only inasmuch as we collectively construct their meaning and articulate a shared wisdom. Set time aside to tell stories. The learning must be made explicit; we hang in collectively.

I have learned so much from working with our traumatized, neglected, and remarkably alive students and with their teachers. I want to distinguish that sentiment from the idea that, when I am teaching a core curriculum subject, my students are also teaching me. I come to them with an expertise in teaching theory and content knowledge that is beyond their years. I have no doubt who the teacher of the class is. What I learn, the gift to me, is how *this* student and *this* student and *this* student are coming to understand *this* lesson in the varied and unpredictable ways the human mind can work.

To be fascinated with the thinking and growth of each student is a formula for lifelong learning as an educator. Small classes are prime real estate for such adult education.

The teachers in our schools who embody this accumulated education should be treasured and exalted, but too often they work without the resources and support their challenges demand. The admiration they get is often in the form of "I don't know how you do your work," but rarely are these teachers asked to say how they actually do their work, as if the teachers of our most challenging students are in a different profession or possess superhuman qualities. This is a loss for us all, because the accumulated stories of hanging in with our most challenging students are vital to maintaining a diverse and just society. There will be other students like Dean and Charlie in our schools, and for now what works is less a step-by-step program in a box than a sharing of the learned wisdom from hanging in.

How This Book Is Organized

Each chapter of the book explores pedagogical issues through my work with one or two particular students. A couple of the students are composites. All of the students' names have been changed, and some identifying characteristics altered, out of respect for their privacy and their struggles, from which they have not always emerged with the hoped-for success. Those struggles underscore an important lesson: however hard challenging students have been to teach, their lives have been exponentially more difficult to live. I spent many an hour pondering what my schools could do for these students, but then I turned off my computer and rejoined my loving family, in my safe home where the bills had been paid. Many of our students did not have such luxuries.

Each chapter opens with a short summary of the issues that emerged from the work with the given students. The ensuing portraits of the students and description of the evolution of their growth are designed to embed those issues in the complexity of the daily

labor of schools. As you read, if you are wondering how the lessons from each story apply to the students in your school, you are on the right path. Interventions that travel unaltered from one challenging student to another are a fool's gold. Please pan for the nuggets that fit your setting.

If it takes a village to raise typical children, challenging children in our villages need their schools to provide critical attention and some very unique structures. Thomas Armstrong (2012) urges us to make schools "positive niches—advantageous environments that minimize weaknesses and maximize strengths and thereby help students flourish" (p. 13). At the end of each chapter in this book, I will suggest approaches for "hanging in" that provide the most consistency and flexibility in developing those positive niches. The approaches are divided into three categories:

1. *For individual students:* Here you will find a variety of suggestions for students who may present similar challenges, and some warnings about the limitations of any given intervention.
2. *For the adult team:* Hanging in with challenging students is an ongoing curriculum for the adults in a school. Here you will find recommendations for the team to develop skills, obtain support, and not lose hope through the ups and downs of the work. You will also find prompts for storytelling.
3. *For administrators:* Administrators have their hands on the gears of a school and exert the most structural, political, and symbolic pressure on the program as a whole. Here you will find recommendations for constructing systems and procedures that give our most challenging students the best chance for success.

Throughout the book are figures offering advice, charts, and forms that I have come back to repeatedly when puzzling over what approaches might be adapted to the challenging student currently stretching our creativity.

I hope this book helps your school team hang in, learn, grow, and appreciate the hard work they do. I also hope for

- An increase in support and funding for the staff and programs that hang in with our most challenging students.
- An appreciation of the potential that rests within each student and the capacity to hold onto the hope when they can't.
- A realization that the expectation to educate every child is a monumental task, the complexity of which we do not understand.
- A commitment to storytelling and to constructing a shared meaning from those stories.
- An invitation to all educators to work with our most challenging students so that you can add your stories to our growing body of knowledge and practice.

1

Toni

Absolutes and Teachable Moments

Schools embody particular minicultures. That is a good thing—when we enter a school, we want to feel that we are in a special place, that we have stepped from the street into an environment that offers students opportunities that they don't experience elsewhere. The confluence of the staff, the community, the history of the program, the physical characteristics of the building and grounds, and the regulations from the government create a unique school culture. That culture and the special opportunities that it generates are secured by the school having predictable rules and expectations, and the adults having predictable emotional responses to student activity. This story centers on a student, Toni, whose needs bring into question which elements of the school's culture are absolute and which can bend.

Challenges for Toni:

- Trauma history
- Substance use
- Learning disabilities and diminished skill set
- History of school failure
- Lack of trust

- Racial isolation
- Explosive outbursts

Challenges for the adult team:

- Maintaining caring when verbally abused
- Not holding grudges
- Rethinking absolute school rules
- Maintaining school safety
- Being alert for teachable moments
- Carefully measuring responses
- Developing reliable plans
- Acknowledging student emotions and frustrations
- Communicating as a team

The Capacity to Trust

When Toni came to the therapeutic school for her initial intake appointment, she was too scared to be alone with us, and so was accompanied by her state-appointed social worker. Toni was not a likely candidate for success. The toxic combination of her learning disabilities, her many gaps in basic academic skills, her post-traumatic stress disorder, her persistent marijuana smoking, and her difficulty in trusting others might never allow her to take the healthy risks necessary to succeed. But there was something in Toni's willingness to hang in that was compelling. During our initial conversation, she flashed an occasional bright smile and gave serious consideration to what she was hearing. Her testing reports revealed a keen intellect, now muffled by her many difficulties. Most importantly, her relationship with her social worker hinted at a lingering ability to connect; if she could trust one consistently caring adult, she might trust the school staff and the other students in the school community.

Above all else, the foundation of schools that hang in with challenging students is building trusting relationships—relationships

that allow these often overwhelmed young people to try again. Atwool (2006) notes that for students like Toni, success in school will be "unlikely to develop . . . without a relationship with at least one . . . adult in which they feel worthy and loveable" (p. 322).

Toni would need from us the fundamentals we provided all of our challenging students—namely, the six essential elements of hanging in shown in Figure 1.1.

Figure 1.1 The Six Overarching Elements of Hanging In

1. *Exquisite respectfulness:* All students, parents, and educators must be treated with the greatest degree of human dignity and respect, in every room, every activity, and every interaction. This is not easy to do, and so exquisite respectfulness is practiced by all. If we should have a bad moment and speak sarcastically, angrily, or impatiently, we get back to the other person (whether teacher, administrator, parent, and especially student) and apologize. Respect is nonnegotiable. If a doctor's credo is "Above all else, do no harm," an educator's is "Above all else, do not shame the student."
2. *Working from student strengths:* For many challenging students, the hard circumstances of their lives have diminished the fullest range and expression of what they might have been able to do. While teaching these students the skills to manage what is hardest for them, we must recognize any and all strengths that can be building blocks of a successful life. Not every student in the world will reach mastery in trigonometry or Latin or essay writing, but all have strengths and talents. Students must experience school as a generative environment. The sum total of a day in school should not be an overwhelming reminder of what students cannot do. Ensure that all students have a school adult or activity that connects them to their best possible selves.
3. *Opportunity for student reflection:* "Aha" moments of learning are idiosyncratic. Challenging students come to school with jagged profiles of competencies and experiences. There are many lessons about school and life that challenging students have not been able to grasp *yet*. We should be consistently checking in with challenging students about what they are seeing and understanding. In those moments of conversation with a caring adult, students have the opportunity to crystallize a previously elusive notion, to say in many ways, "Oh, I get it now!"

continued

Figure 1.1 The Six Overarching Elements of Hanging In (*continued*)

4. *Learning from errors:* The path to competency, especially in the social and emotional domain, is filled with missteps. Students will make the same error more than once. We must make sure that consequences for their errors are not damning. Consequences for mistakes (including punishments) should be time-limited and offer a realistic way to regain trust. As much as possible, and as soon as possible after the misstep, offer ways for students to demonstrate and practice the replacement skill.
5. *Allowing multiple interests to inspire diverse solutions:* With challenging students, there is rarely one issue, one stakeholder, one obvious path. The students' struggles affect their educators, their peers, their families, the community at large, and most significantly, their own growth into adulthood. It is important to keep the multiple interests on the table and not get stuck in the trap that in order to satisfy one interest, the others must be sacrificed. The school community will grow by developing a rich menu of strategies.
6. *Working as a team:* No one effectively does the work of teaching challenging students alone for very long. Teachers and professional staff must have multiple venues to vent, ask for advice, brainstorm strategies, and celebrate successes. All educators bring to the work the experiences and skills that may be critical to the success of a single student and to the growth of the programs—make sure that meetings and other forms of communication access the full range of team input. Everyone who works primarily with challenging students should have an ally, a supportive supervisor, a coach.

Toni Reacts

When Toni started at our school, she found the culture created by our six overarching elements disconcerting. As with many students on the verge of dropping out of school completely, she had tried a year or two of public high school and failed to bear up to its anonymity, stress, and the intense social cauldron. Toni often reacted explosively to situations she found stressful or scary. She could look

menacing and swear like a sailor. This had gotten her into a lot of trouble at the public high school. At our school, no matter what Toni might say or do (in her case, academically more often *not* do), she was never shamed. Within such an emotionally safe setting, students have a shot at being reacquainted with their strengths and hopes. But could Toni?

Often we thought not. Like other students who have had hard lives, she experienced the staff's boundless friendliness as unsettling. "You all are too nice. I don't like you all saying hello to me every day." She might have been more comfortable if teachers held grudges and rejected her when she stomped away, muttering curses at them on those rough days when we would have to send her home early because she was refusing to comply with any school rules. Instead, the next day the teachers greeted her warmly, ready to start over on whatever lesson had scared her away the day before.

Toni faced other obstacles. She struggled with feeling isolated. Coming from a black and Latino family, she said, "I'm not used to being around so many white people. My perfect school would be all black." She struggled with homework, with required reading, and with math. But her willpower was enormous, and she had an innate ability to discern people's feelings and to attract people to her. She tested everyone with her abrasive language, impatience, her dark moods, and her approach-and-avoidance behavior when asking for help. For instance, a day after Toni flashed us her warm smile and showed us a dance step to a song we had never heard before, she'd burst into class with headphones on, singing loudly, and when asked to put the headphones away and settle into the task at hand, she'd explode: "This fucking school and its fucking rules. You just want to give students shit all day, don't you?"

Putting Behaviors in Categories

One of the key approaches for hanging in with students who display such unpredictable and explosive behaviors as Toni's is to

identify which behaviors demand a rigidly consistent response and which behaviors suggest a more nuanced and context-specific response. Ross Greene (1998), in his excellent book *The Explosive Child*, describes three categories of behavior that we used to sift Toni's typical outbursts and to plan our responses: behaviors that are not to be tolerated, behaviors that the school can ignore, and behaviors we choose to respond to as teachable moments.

At one extreme are *behaviors that are not to be tolerated*, mostly because these behaviors threaten the safety or the integrity of the community. In this category for Toni was aggressively swearing at someone. Toni would be sent home for the remainder of the day if she was verbally abusive. The school team all knew the steps to take when Toni displayed intolerable behaviors. No one cherished the expectation to confront her at those times, but knowing that the teachers had each other's backs, and that the administration would follow through without any question, gave each one the strength to set that unwavering limit.

At the other extreme are *behaviors that the school can ignore*, even if other schools or programs wouldn't. Toni was allowed to wear hats and do-rags; in fact, the realization that such articles of clothing for her were not at all gang related but a safe and creative aspect of her sense of self led the school to reexamine all of its policies toward headgear. What Toni wore on her head provided opportunities for conversation and appreciation of her style. Her hats never interrupted the business of learning. Whether or not she wore a hat had no impact on the school's functioning.

Between the extremes of absolute rule adherence and ignoring is the largest category of behavior, those *behaviors we choose to respond to as teachable moments*. These behaviors occur in the vast gray area of context and relationships and so can be molded into opportunities to learn and grow. For Toni, these moments could be crucial in shaping her emerging capacity for self-control. When Toni turned away from teachers and muttered loudly, when she initially refused to follow a direction, when she slammed a book on her desk

and declared the work to be "the stupidest thing I have ever been asked to do," the teachers did not have to immediately censure her. They did not ignore the behaviors; to do so would give Toni a false sense of how the world operated. Instead, they gauged each situation in choosing their responses: Toni's overall mood that day, the volatility of the peer group, their own relationships with Toni, the time available to engage with her. Through experience, teachers developed a handful of guidelines for addressing these behaviors; their accumulated wisdom from the decisions they made and the small successes with Toni were critical in Toni's development.

What worked best for Toni was when teachers gave her a quiet minute after her outbursts. The teachers stood close enough to demonstrate attention but not so close as to trigger Toni's fears. When they gauged that the moment was right, the teachers simply acknowledged and put into words what Toni was feeling: "Wow, that made you upset." The message to Toni was that the school was strong enough to weather her emotions. She might glare back, mutter more, walk farther away, but the teachers did not add to her escalating reactions. They let her safely simmer down. In various ways, again context dependent, the teachers would say, "Let's try that again, OK?" The goal was to communicate that she could move on, and that the staff would not hold grudges. Tomlinson (2012) describes this staff approach as "half pit bull and half Mother Theresa" (p. 88). It was one of Toni's strengths that she could recognize those attitudes in the adults.

We developed a form for sorting student behaviors into the three categories and deciding on responses. Figure 1.2 shows this form, which we call the "Specific Behavior Plan," filled out for Toni. The plan reflects shared team experiences and perspectives and represents a team consensus for how to respond. The form is a tool, not a set rule book, and should be reviewed and adjusted as the team gains new insights and the student develops new skills.

The team also asked Toni to reflect on her own behavior, identifying situations that upset her, how she might avoid these situations,

and how she might keep calm if she started to get upset. Toni and staff agreed on an escape plan for her, a safe place in the school where she could go to calm down if she lost, or was about to lose, control. Figure 1.3 is Toni's "Get Me Out of Trouble Plan."

The Team Holds the Power

There is no way to overestimate the critical importance of adult teamwork and communication when we have challenging students like Toni. In isolation, teachers can feel like the last soldier on the battlefield, defending modern civilization against the potential chaos of a world filled with unruly teenagers. Toni was seen as one of those chaos-threatening students. She would often display her bad behavior in front of a lone teacher, provoking all of the consequences the adult had available. As a teacher once admitted to me when reflecting on his own emotional buildup and fear of losing control, which had propelled him to become more harshly punitive than he even expected he could be: "Not on my watch were we going to lose the battle!" When teachers have time to collaborate with each other and administrators, the metaphor of war can be put aside, and we can return to the boundless terrain of education.

The shift for Toni's teachers was to see her as a sad and scared person, who had few tools at her disposal, ineffectively trying to get through her day. In her emotionally charged state, Toni did not yet have the cognitive capacity to modulate her behavior; the arousal process took her from stimulus to action in a short period of time (Siegel, 1999). She stomped away from teachers in shame from what she had just said and fear of what might next come out of her mouth.

In contrast, the adults were an organized team, with all the institutional power at our fingertips. With our collective resources, the adults would never lose. Toni's team learned to be like the black-belt martial artists whose strength and training allow them to stay calm in a conflict, knowing that they hold a huge advantage. They rarely if ever need to actually fight; instead, they can educate. Mendler (2012)

Figure 1.2 Specific Behavior Plan

Behaviors that we are responding to as teachable moments:

- Toni shouts out when work is assigned.

What the teacher says or does to shape new behavior:

- Leave Toni alone for a few seconds.
- Say, "Can you tell me in a quiet voice what is hard about this?"

What student can be expected to do when given a prompt:

- Remain silent; no need to talk to teacher immediately.
- Ask for more time to cool off.
- Ask to go to her safe place.
- Talk to the teacher quietly.

Behaviors that demand one consistent response:

- Toni swears aggressively or is verbally abusive.

What the teacher says or does to interrupt behavior:

- "Toni, it is time to go to your safe area."

What is expected of student:

- To go to her safe area as quietly as she can.

Staff who must be contacted:

- The assistant principal, who will meet Toni at her safe area or come to the room and communicate to her the consequences to her actions once she de-escalates.

Behaviors that we are ignoring:

- Toni mutters under her breath.
- Toni puts herself down verbally.
- Toni scowls.
- Toni disregards headgear rule.

notes: "The only way to effectively manage provocative moments is for you, the classroom leader, to stay calm" (p. 49). Toni's teachers stayed cool in the moment, knowing that they worked as a team, and their calm gave Toni the time and space to try again. For Toni's teachers, maintaining calm was supported by four important conditions:

Figure 1.3 Get Me Out of Trouble Plan

Name: Toni

These things can really make me upset:

- Staff standing too close to me
- Not giving me time to stop doing one thing before I have to do another
- Feeling stupid

Ways I can avoid the things that upset me:

- Don't go into class if I am already pissed off
- Do my homework in study hall

Ways I can keep calm when things are starting to upset me:

- Ask to be left alone ("I want to be alone now")
- Listen to music

My escape plan—where I go in school to be safe when all else fails:

- Outside Sandy's office

1. They knew what the absolutes were and what steps would be taken in those situations.
2. They knew they had the latitude and flexibility to work with Toni in situations that were not absolute and that they would not be second-guessed. This assurance gave them the security to discuss how they might nudge Toni's learning even more the next time they were in a similar situation.
3. They knew they could review as a team Toni's specific behavior plan, and its lists of absolute, ignored, and teaching moment behaviors, which evolved as Toni herself developed a broader array of coping skills.
4. They knew that supporting Toni's emotional development was often going to take precedence over developing any particular academic skill. It was not yet time to judge the team's success based on Toni's standardized test scores.

Toni Responds to Our Holding the Hope

We recognized Toni's breakthroughs mostly in retrospect; each was the result of Toni coming back to school day after day and of the staff holding onto the hope. Sandy, her therapist at school, could look Toni in the eye and talk to her in a direct language rarely practiced in social work schools. For instance, Sandy might say, "It's not okay that you dumped all your shit on that teacher." Sandy's wording connected Toni directly to her own emotions because it was the wording Toni used to talk to herself. In those moments, Toni felt heard and understood. After a year and a half, Toni finally allowed her math teacher to show her the steps of long division. One day, when she had dropped all of her books and folders in the hallway, Phillip, a teacher with blonde hair and bright blue eyes, set aside his own pile of papers to help Toni with hers, and she said, "That was the nicest thing anyone could have done for me." When it came time for writing her senior thesis, the school offered Toni the tutorial support of Meg, a soft-spoken Irish girl from the suburbs, and Toni accepted. The two of them sat in the cafeteria, finding a common language to navigate through the 75 note cards and pages of bibliography required to graduate.

As a school administrator, my own relationship with Toni had always been tenuous. More than once, I was the target of her wrath. I watched from afar as she learned to write book reports, went to a job training program off-campus, cochaired the school's weekly community meeting, and truly became a citizen, someone who would contribute, not only to our school, but to the larger community. In many ways, she changed more than any student I have known in my 30 years in the business. One day, in the middle of her senior year, we were walking onto the campus together. I realized I was jealous of the many staff and students who were now in her circle of trust and warm regard. I decided to take a small risk and let her know how much I admired her efforts. I caught up with her and said, "Toni, you have done an amazing job of turning around your life." There was a pause. She eyed me for a moment and then exclaimed in her most

boisterous voice, a voice that still echoes in all of our memories, "It's about time, huh?!"

Hanging-In Recommendations and Considerations for Individual Students

1. *Create schedules that maximize students' contact with the adults who are having success building their trust.* Even if it appears to be giving these students something special that they have not yet earned, this extra contact is what they need. Each student has a different capacity to develop trust.
2. *Let staff who have established trust communicate to the student the school's expectations*—what are the most valuable and guarded elements of the school's culture?
3. *Help each student develop simple coping tools for times of heightened emotions* (going to a special quiet part of the school, taking a walk on grounds, controlled breathing). Make a plan for what the student should do in stressful situations. (See Figure 1.3 for a sample plan.)
4. *Work with students to develop a signal for when they need to escape to a designated quiet place.* Something simple like three fingers in the air can be a way of asking for permission to go without having to give an explanation in the moment. Most students who challenge us with eruptions the way Toni did need escapes before they make things worse. We know they cannot change their behaviors overnight. We want to find ways those behaviors have the least effect on the school's functioning.
5. *Don't enforce consequences immediately when de-escalating the situation with a student.* Almost always, the first task with challenging students who are having an outburst is to support them in calming down. Give these students options for correcting themselves or cooling off, if the momentary behavior does not undermine the safety or culture of the school.

6. *Build in time and positive feedback for students' individual accomplishments.* Challenging students like Toni come into school way behind the pack in feeling good about themselves, so don't worry about spoiling them with compliments—that's an unlikely outcome. More likely, your compliments will build relationships that can allow you to tell the truth about all their behaviors.
7. *Don't stop giving sincere compliments when the student seems to be rejecting you*—you are being tested to see if you can hold up to a bit of rejection. Some students will reject you before you can reject them. Don't let their attitude change your attitude of appreciation. They have to know that *you* believe that they can be successful in the culture.

Hanging-In Recommendations and Considerations for the Adult Team

1. *Storytelling:* Share what student you hung in with for the longest time before you began to achieve academic success. What were the pivotal moments? Share what student you hung in with for the longest time before there was a level of trust. What helped you hang in through that time? What were the pivotal moments?
2. *Review all behaviors that require absolute and unvarying responses.* As teachers we make so many complex decisions every day; having clarity about the absolute behaviors we must address reduces the burden of decision making.
3. *Develop specific behavior response plans for challenging students.* (See Figure 1.2 for a sample plan.) Consider which student behaviors might be responded to as teachable moments, based on the context and the time available, and which might be safely ignored. Share results of using the plan and adjust accordingly.

Hanging-In Recommendations and Considerations for Administrators

1. *Identify places where students who are escalating can calm down.* These places should be easily accessed; a student who in the moment has very little ability to calmly ask for help should not have to navigate a complex set of permissions to get where he or she can recover. Make it easy. The school culture will develop its capacity for safety and compassion.
2. *Develop structures that allow staff who are working closely with challenging students to communicate their progress.* Toni's team shared with each other her small successes and evolving abilities. They were all abreast of what had been tried and what would be the next step to target. Teams need time to meet, or technology, to share the latest news.
3. *Review each year the list of absolute rules and consequences and keep them to a minimum.* Certain rules, followed in lockstep, are critical to maintain the school's culture, but sometimes a school's rules have not been reviewed for years and just keep getting reprinted in the handbook. In many schools, teachers arbitrarily treat a lot of rules as guidelines, because the rules are not the best practice in the moment. The professional culture of a school can erode when teachers feel compelled to go their own way in support of a needy student. Administrators can unite a staff around a smaller set of absolute rules—easier to remember, easier to enforce, easier to supervise—and a lot of reasonable guidelines.

Many students arrive at school with unique mixtures of family histories, traumatic experiences, and special needs that test our skills and try our patience. In *Hanging In: Strategies for Teaching the Students Who Challenge Us Most*, veteran educator Jeffrey Benson shows educators the value of tenacity and building connections in teaching the students who most need our help. This essential guide includes

- Detailed portraits based on real-life students whose serious challenges inhibited their classroom experience—and who eventually achieved success.
- Strategies for analyzing students' challenges and developing individualized plans to help them discover a sense of comfort with learning—with in-depth examples of plans in action.
- Recommendations for teachers and support teams on how to gain skills and support and not lose hope through the ups and downs of the work.
- Specific advice for administrators on constructing systems and procedures that give all our students the best chance for success.

Just as teaching the students who challenge us is among our most frustrating experiences as educators, sticking with students until they finally "get it" is among our most rewarding. In *Hanging In*, you'll find the inspiration and field-tested ideas necessary to create a patient and supportive environment for even the most demanding cases in the classroom.



Many ASCD members received this book as a member benefit upon its initial release.

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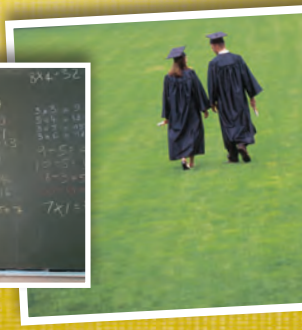

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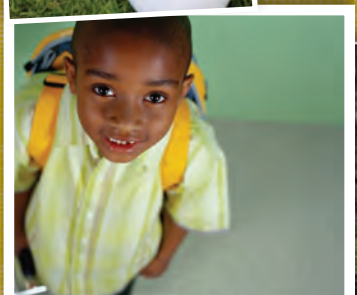




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This book is dedicated to my beautiful wife, Holly,
who inspires the best in me.

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INTRODUCTION

Inspiring the Best in Students was born out of my 23 years working with children and adolescents, first as an English teacher, drama director, and coach; next as a staff development specialist; and finally as an education consultant, often invited to work with schools' most challenging students. I entered the classroom in 1986, well prepared to teach English, but not nearly as well prepared to teach kids. My preparation focused more on teaching content than on understanding how to connect with, motivate, and manage adolescents. Most of my education courses were theoretical survey classes, with little exposure to real children until student teaching, which was during my last semester. Needless to say, there was a lot of "on-the-job training."

During my first few years of teaching, I gradually started to understand the fascinating challenges that adolescents present: their drive to challenge, critique, and eventually separate from the adults in their life; their constant testing of the limits imposed on them; their lack of impulse control; and the ongoing drama involving relationships with their peers. Then one summer, I took an intensive course in what is now known as choice theory (Glasser, 1998). For me, as for many of the teachers I've worked with over the years, choice theory articulates a philosophy of teaching that resonated, one based on positive relationships and inspiration instead of power and control.

I first applied choice theory to my classroom by using the ideas to create a needs-satisfying learning environment, characterized by positive relationships, student voice and choice, and differentiated, engaging teaching and learning strategies. I explain this process in detail in my first book, *The Classroom of*

Choice: Giving Students What They Need and Getting What You Want (Erwin, 2004). As I continued my work toward certification in choice theory, I decided to try an approach to literature that involved students in analyzing literary characters' actions, thoughts, and motivation through a choice theory lens.

To do this, I needed to teach my students some choice theory. When I did, I felt like I'd struck gold. My students learned the concepts easily and eagerly, and they applied them in ways that yielded a deeper understanding of literary characters, conflicts, and themes. Serendipitously, students gained insight not only into literary characters but into themselves and others. Choice theory provided us with a common language and understanding for meaningful class discussions and problem solving, as well as a plethora of writing, speaking, and listening activities and assignments. It also improved relationships between myself and my students, as well as among my students. Although I didn't know it at the time, this was my first experience with a kind of character education called social-emotional learning (SEL). I was hooked.

I continued to teach choice theory, augmenting it with other, related SEL and character strategies. Behavior problems all but disappeared, students enjoyed each other and liked coming to class, and students' report card grades and standardized test scores (in New York state, it was the Regents ELA exam) continued to improve. By this time I was teaching 11th and 12th grade students. When graduates returned after their first semester or year in college, or when on leave from the military, they mentioned SEL as benefiting them at least as often as the writing skills they had acquired.

In fact, one August afternoon, I received a call from one of my seniors who'd graduated a little over a year before. His name was Mike. He was a bright, funny kid, the kind who make you glad they are never absent. He was a sensitive student from a tough home environment, and I worried about him. During his last semester of high school, he was using marijuana (probably other drugs as well) and was in a destructive relationship with a troubled girl. On the eve of graduation, he had no plans other than to try to find a job out of state and live with his girlfriend. When he called that day, the conversation was short, but he let me know that he had moved to Florida to live with his mother and stepdad, had broken up with his girlfriend, had completed an intensive outpatient drug rehabilitation program, and was planning to enroll in a community college. "I

just wanted to say thanks. My life's a lot better now," he concluded, "and it's because of that choice stuff you used to teach us."

"I'm glad that helped you, Mike, but if you think it was the 'choice stuff' that did it, then I'm going to have to lower your grade," I kidded.

He thought for a second. "Yeah, yeah. I know, I know—it was me."

I wished him luck, said good-bye, hung up, and basked in one of those validating moments that come along every once in a while in education. As I thought about Mike and the difficult life choices he'd made recently, I knew that he would have gotten an *A* in my English class with or without the SEL. But without it, that phone call would never have come, and Mike's life may have been terribly different. In Chapter 1, you will find that there is a solid research-based rationale for character education and SEL, and although educational practice must be informed by good scholarly research, it is stories like Mike's and others I'll share throughout the book that prove to me the importance of integrating social-emotional learning and character development into the curriculum.

The Intended Audience

This book is intended for anyone who works with young people and wants to help them develop the intra- and interpersonal skills required to be a successful, contributing member of society. It was originally intended for teachers of grades 3–12. Most of the student-centered activities are designed with those ages in mind, but many could be simplified for younger children or made more complex for young adults. Using the concepts explained in this book, primary school teachers also should find it easy to create activities and teaching strategies of their own. Additionally, this book could be a useful resource for school counselors, social workers, coaches, members of the clergy, community youth organizations, parents, and any others who want to promote positive youth development.

How to Use This Book

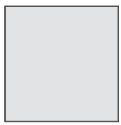
This book can be used in as many ways as there are schools or classrooms. Here are a few general ideas.

Ideally, schools would use this book as a foundational resource for broadening the scope of their mission, to include educating the whole child through the integration of social-emotional learning into the curriculum, thus promoting strong character. To do this, teachers might follow the book chapter by chapter as each new concept builds on the last, choosing activities that are developmentally appropriate. Integrating this book's content with the general curriculum, schools would probably need two full years to teach the entire book.

Another approach might be to divide the book's curriculum by grade level: grade 3, learning the knowledge and skills in Chapters 1 and 2; grade 4, Chapters 3 and 4; and so forth. In elementary schools, the *Inspiring the Best* curriculum might be taught in special blocks of time to two or three classes at once by a school counselor, teacher, or team of teachers who have a special interest in character development. Or it might be more invisibly integrated into daily lessons by the general education teacher.

In secondary schools, this curriculum might fall into the domain of the school counselor or the English, social studies, or health teachers, as much of the content can be very easily integrated into those curricula. Many schools have instituted an advisory period for students to develop a mentoring relationship with a teacher (some use homeroom this way). I know from visiting hundreds of schools that those advisories can be either highly effective or a waste of everyone's time, depending on how they are structured. *Inspiring the Best in Students* provides a ready-made curriculum and dozens of student-friendly activities that would build student-teacher relationships while teaching useful information and skills.

Another way of using this book is as a kind of grab bag of information and activities that target specific student needs. For example, you might address impulse control or teach students the social skill of active listening. Some of the activities—the Inside-Outside Circle or the class meeting, for example—might be adapted to teach not only character and social-emotional learning, but also the academic curriculum. Although using the activities out of context may not be as effective as if they were part of a coherent character development program, they would still encourage students' social and emotional development. Any way you choose to use this book, I thank you for doing whatever you can to inspire the best in kids.



1 INSPIRING THE BEST

If you are reading this book, you almost certainly work with young people. Maybe you are a teacher, counselor, or school administrator. Or maybe you are a social worker, therapist, mentor, coach, or youth development leader. In whatever capacity you work with children or teenagers, you want to inspire what is best in them. If you are reading this book, you also probably have experienced a respectable amount of personal success in your life. Before considering what is involved in bringing out the best in students, I ask you to reflect on the personal traits or qualities that have enabled you to experience success.

These personal traits are likely to include, among others, responsibility, respect, perseverance, honesty, integrity, patience, a strong work ethic, self-discipline, optimism, empathy, compassion, and cooperation. We need these characteristics to survive and thrive in a complex, competitive world. Of course, it is virtually impossible to demonstrate all of these qualities consistently; however, without exhibiting them at important life junctures, you would not have experienced the degree of success that you have. And without the positive relationships and achievements that your character traits have made possible, you probably would not experience the degree of happiness you enjoy in life.

Today's students face an even more challenging world than we did. Therefore, it is more important than ever for young people to develop the qualities that enabled our success, character traits that will help them learn and achieve well in school, perform satisfactorily in the workplace, communicate effectively, and develop and maintain positive, trusting relationships in their lives.

This book, then, is about promoting character development. This first chapter will address fundamental questions about the prospect of integrating a character education initiative into what many perceive as an already overwhelming curriculum. Subsequent chapters will focus on specific information and skills that support students' character development and will provide engaging, research-based teaching strategies.

The Need for Character Education or Social-Emotional Learning (SEL)

Disturbing statistics suggest that what we are currently doing in schools to help students meet the challenges of contemporary society leaves many children and adolescents behind. In fact, 20 to 60 percent of urban, suburban, and rural high school students become chronically disengaged from school—not counting those who already dropped out (Klem & Connell, 2004). In America's 10 largest cities, the high school graduation rates hover around 50 percent. In New York City, Baltimore, and Detroit, graduation rates in 2006 were a dismal 38.9 percent, 38.5 percent, and 21.7 percent, respectively (Toppo, 2006). Furthermore, approximately 30 percent of high school students "participate in or experience multiple high-risk behaviors (e.g., substance abuse, sex, violence, depression, attempted suicide) that interfere with school performance and jeopardize their potential for life success" (Payton et al., 2008, p. 3).

Unfortunately, for at least the last decade, the emphasis—or, some might argue, the obsession—in U.S. education has been on raising academic standards and student (and teacher) accountability through frequent standardized testing. I'm not arguing that we should lower academic standards, nor should we decrease accountability. However, as a society, we need to address the questions, What is the purpose of public education? Is it enough to focus on students' academic and intellectual competence alone and leave all other aspects of their development to chance? The statistics shared here shout, "No!" If we are to help all children reach their full potential; become contributing, successful members of a democratic society; and improve the unsettling trends just discussed, we must address the development and education of the whole child.

What, then, are the dimensions of a whole human being? First is the physical dimension: a person's health, strength, motor skills, and athletic ability. Next is the intellectual dimension: memory, learning, thinking skills, problem solving, and creativity. The third dimension covers emotions: emotional awareness and understanding, self-regulation, self-motivation, and self-esteem. The fourth dimension is the social dimension: forming and maintaining positive interactions with family, friends, peers, coworkers, the community, and society at large. Finally, there is the spiritual dimension: our relationship with something larger than ourselves, whether we call it God, Allah, Jehovah, a Higher Power, Nature, Humanity, or even our purpose or legacy.

The human dimension with which schools are primarily concerned is that of the intellect. In response to pressure from federal and state education departments to raise academic standards and increase accountability, schools emphasize intellectual development, particularly in math and verbal areas, almost to the exclusion of everything else. As educators, we fail our students if we don't also address two other important human dimensions: the social and emotional. By intentionally helping students develop those facets of themselves, we will simultaneously improve both their physical and intellectual development.

Today, there is an increased call to promote the education of the whole child. Stating that educating "the whole child cannot happen if emphasis is placed solely on academic achievement" (p. 11), *ASCD's Learning Compact Redefined: A Report of the Commission on the Whole Child* (2007) recommends that school districts incorporate social and emotional learning (SEL) into their programs. Over the last dozen years in my role as a consultant, I have often been invited to work with students who have been expelled from their home schools or who have been involved with the judicial system. I am frequently struck by how intellectually bright and creative these students are. Their problems don't stem from the inability to succeed academically. In almost every case, it is the social and emotional knowledge and skills that have been deficient, which often leads to academic failure and chronically disruptive or antisocial behavior. If we fail to address these needs, we are indirectly sentencing many of these students to a lifetime of problems and burdening society with all the emotional, social, and fiscal issues that accompany them.

There is another important consideration. Just as a developmental window of opportunity exists for more easily acquiring a second language, the time when the frontal cortex gradually matures (the elementary, middle, and high school years) is the optimal time to encourage emotional, social, and moral development. "By leaving the emotional lessons children learn to chance," writes Goleman (1995), "we risk largely wasting the window of opportunity presented by the slow maturation of the brain to help children cultivate a healthy [social and] emotional repertoire" (p. 286). Ideally, social and emotional skills are taught from early childhood through early adulthood, but as we now know, the brain isn't completely developed until the early to mid-20s (Jensen, 2006), and even fully mature adults are able to grow new neurons. Neither intellectual IQ nor social or emotional IQ is set at birth or in childhood. So although childhood and adolescence are the optimal times to nurture SEL, it is never too late to do so and should not be simply left to chance.

What Is SEL?

Jonathan Cohen (1999), the director of the Center for Social and Emotional Education (CSEE), explains that SEL is the development of "the skills and attitudes necessary to acquire social and emotional competencies" (p. 12). Daniel Goleman (1995), author of *Emotional Intelligence*, defines emotional competency as having the knowledge and skills that channel "behaviors toward a positive end . . . whether it be in controlling impulse and putting off gratification, regulating our moods [and emotions] so they facilitate rather than impede thinking, motivating ourselves to persist and try, try again in the face of setbacks, or finding ways to . . . perform more effectively" (p. 95). Yet, emotional intelligence cannot be isolated from social intelligence; almost all emotions have a social component: "You can't separate the cause of an emotion from the world of relationships—our social interactions are what drive our emotions" (Goleman, 2006, p. 83). Social competency, then, involves our ability to navigate the world of human relationships, whereas emotional competency enables us to cope with the myriad emotions that relationships involve—and to do so with positive results.

The Collaborative for Academic, Social, and Emotional Learning (CASEL) defines social and emotional learning as

> the process through which children and adults acquire the knowledge, attitudes, and skills to
>
> - Recognize and manage their emotions
> - Set and achieve positive goals
> - Demonstrate caring and concern for others
> - Make responsible decisions
> - Handle interpersonal situations effectively. (Payton et al., 2008, p. 4)

Simply stated, emotional learning is gaining the knowledge, the desire, and ability to use *intra*personal skills, whereas social learning is gaining the knowledge, the desire, and the ability to use *inter*personal skills. In terms of character development, social and emotional learning enables and inspires character traits such as respect for self and others, personal and social responsibility, optimism, a strong work ethic, perseverance, compassion, cooperation, and honesty.

What Research Says About SEL

More than ever before, educators are research driven. Fortunately, the latest research involving SEL (and character development in general) is compelling, positively affecting everything from students' individual health and wellness to significant increases in standardized test scores.

In *Smart & Good High Schools*, Lickona and Davidson (2005) report on their studies of the impact of character education in general on schools:

> At every developmental level—elementary, middle, and high school—students who experienced quality character education programs outperformed comparison groups not only on measures of social behavior but also on measures of academic learning. There's an emerging body of hard evidence that we'll get an academic payoff when we invest in developing character as the foundation for excellence. (p. 211)

Indeed, since Lickona and Davidson's report, a hard body of evidence has continued to emerge. Most recently, a long-awaited report, the biggest study of its kind ever done, demonstrates the significant positive impact SEL can have

on students and schools. Entitled *The Positive Impact of Social and Emotional Learning for Kindergarten to Eighth-Grade Students* (Payton et al., 2008), it "summarizes results from three large-scale reviews of the impact of social and emotional learning programs on elementary and middle-school students" (p. 3). The three reviews included 317 studies involving 324,303 children. Students in effective SEL programs demonstrated improvement in multiple areas of their personal, social, and academic lives, including these:

- Social-emotional skills
- Attitudes toward self, school, and others
- Social behaviors
- Conduct problems
- Emotional distress (anger, anxiety, and depression)

Notably, SEL programming "yielded an average gain on achievement test scores of 11 to 17 percentile points" (p. 6). Moreover, SEL programs and interventions were beneficial across grades K–8; for schools in rural, suburban, and urban settings; and with racially and ethnically diverse student populations. The authors of the report compared the findings in their review with findings obtained in reviews of evidence-based interventions conducted by other researchers and concluded that "SEL programs are among the most successful interventions ever offered to school-aged youth" (p. 6).

While CASEL's report focuses on K–8 SEL programs, a growing body of research supports the *Good & Smart High Schools* report, suggesting that high school is not too late to introduce character education. My own personal experience bears this out. One of my first experiences teaching character through SEL involved working with an alternative high school near Elmira, New York. Linda Hillman, the principal at the time, was interested in her students' learning choice theory and the social and emotional skills that went along with it. Over the course of the 1999–2000 school year, I worked with the entire student body in groups of 10 to 15 for three full days (with two or three teachers and paraprofessionals participating as well). By March 1, 2000, the referral rate had decreased 78 percent. With continued work with new students, and with teachers reviewing and supporting the previous learning, the rate decreased

another 13 percent the next year. We had made a significant impact on the school culture and climate.

The Characteristics of an Effective SEL or Character Program

The powerful findings discussed here were all based on effective character education or SEL programs. It is important to understand what research says about the common elements of programs that are deemed effective. In 2005, the Character Education Partnership (CEP), along with the John Templeton Foundation, funded research to "derive practical conclusions about character education implementation from the existing literature" (p. 2). Authors Berkowitz and Bier "selected programs with well-designed research"; investigated what the research revealed about the effectiveness of the programs; and after considering 78 studies, "identified 33 programs with scientific evidence supporting their effectiveness in promoting character development in students" (p. 7).

The authors then looked at the strategies those effective programs had in common. In their report, entitled *What Works in Character Education: A Research-Driven Guide for Educators*, they state that programs that have demonstrated a positive effect include the following elements:

- Professional development for teachers
- Peer interaction
- Direct teaching
- Skill training and practice
- An explicit agenda
- Family or community involvement
- Models and mentors
- Integration into the academic curriculum
- A multistrategy approach

Similarly, the CASEL report cited earlier analyzed successful SEL initiatives and found that they shared the following attributes:

- They were *sequenced*—applying a planned set of activities to develop knowledge and skills in a step-by-step fashion;
- They were *active*—using engaging forms of learning, including role-play and behavioral rehearsal;
- They were *focused*—devoting sufficient time exclusively to developing social and emotional skills; and
- They were *explicit*—targeting specific social and emotional information and skills.

In addition to these criteria, research supports the use of an intrinsic-oriented approach to teaching in general, whether it be character development, SEL, or academic subjects. Many character education models use an extrinsic-oriented approach, with "caught you being good" tickets and various rewards for demonstrating positive social or emotional (or character) behavior. Although recognition and positive, specific teacher feedback are important to student motivation (Marzano, Pickering, & Pollock, 2001), the use of tangible rewards tends to backfire (Ryan & Deci, 2002).

Instead of expending energy on reward systems that don't work and often distract teachers and students alike from the ultimate goal, it would be far more productive to direct that time and energy toward building a positive, trusting relationship with students; helping students understand the benefits of engaging in a particular activity or program; and using pedagogy that is active, engaging, and perceived by students as needs satisfying. If you focus on these three things, students will be intrinsically motivated, and you will eliminate the need for bribes and manipulation.

In summary, the following characteristics define an effective character or SEL program:

- *Professional development*: Teachers receive sufficient training to implement the program.
- *Sequencing*: A clearly identified step-by-step approach to knowledge and skills is being taught.
- *Explicitness*: Clearly communicated knowledge and skills are taught and assessed.

- *Direct instruction*: The program includes direct delivery of the curriculum.
- *Activeness*: Direct instruction is balanced by a multistrategy approach of engaging integration activities such as peer interaction, behavioral rehearsal, and role-play.
- *Curriculum integration*: The program is integrated into the academic curriculum.
- *Focus*: Sufficient time is devoted exclusively to social and emotional (character) skills.
- *Models and mentors*: The program provides opportunities for students to observe and work with positive role models and adult or peer mentors.
- *Parent and community involvement*: The initiative involves parents and community members and organizations in a coordinated approach to character development.
- *Intrinsic motivation*: The program appeals to students' intrinsic motivation to learn and grow, instead of relying on the traditional carrot-and-stick approach.

This Book's Approach

Relationships! Relationships! Relationships!

Everyone knows the first three rules of real estate: Location! Location! Location! Less well known, yet far more important, are the first three rules of education: Relationships! Relationships! Relationships! In my own experience, the most positive school experiences involved teachers I liked and respected and who I felt cared about me. Cohen (1999) agrees, stating, "Virtually all learning happens within the context of human relationships. . . . [T]he contacts we have with individual students affect how they feel about . . . what they are learning" (p. 17). As I tell teachers in my professional development workshops, if students like and respect you, and feel cared about and respected, they will learn anything you have to teach. And unless they are absolutely inspired by the content alone, if students don't feel liked or respected and don't like and respect you, they will not learn from you.

Ryan and Deci's (2002) research supports this view: "children who [feel] securely connected to, and cared for by . . . teachers [are] the ones who more fully internalize . . . positive school-related behaviors" (p. 19). Most important, often simply having a good relationship with a teacher or other adult at school can have a profound positive impact on students' social, emotional, and even physical well-being. "A . . . groundbreaking study (Klein, 1997) of over 12,000 adolescents found that parent-family connectedness *and connectedness to school* were protective factors against emotional distress; suicidal thoughts and behavior; violence; use of cigarettes, alcohol, and marijuana; and early sexual experimentation" (Cohen, 1999, p. 18).

Therefore, this book's approach is based on a foundation of positive, trusting student-teacher relationships. And because power in the classroom resides primarily with the teacher, it is his or her responsibility to initiate relationship building. Taking the time to get to know students at the beginning of the year and helping them get to know you are essential to teaching in general, but particularly to teaching social-emotional content. This approach is well worth the time and effort it requires: slowing down and building trust speeds up and deepens the learning in the long run.

Just how do you build these kinds of relationships with students? As Glasser (1998) says, "It takes a lot of effort to get along well with each other . . . [but] the best way to begin to do so is to have some fun . . . together. Laughter [and fun] are the foundation of all successful long-term relationships" (p. 41). After establishing some clear basic classroom expectations regarding rules, procedures, and so forth, explain the importance of developing trust in the classroom. You might tell your students that all new learning involves taking risks, and without trust, risk taking is not going to happen. Then play some team-building games and hold class discussions on topics that interest students. Tell them about yourself: your family, your interests, places you've visited, jobs you've held. Have students complete an interest inventory. Try to find a connection with each student. Greet them at the door each morning, attend their extracurricular activities, or sit with them at lunch. Hundreds of ways of showing students that you like them and care about them are possible.

One of the benefits of the interactive strategies in this book is that most of them serve double duty, developing social-emotional knowledge and skills and simultaneously building and deepening relationships. If, however, you find that

students balk at participating in the activities, evaluate the relationship you have with them. As you know, some students, whether due to attachment issues in general, past experiences with teachers, or just their individual personalities, are more resistant to relationship building than others. Be patient, keep trying, and never give up on a student. He or she may be just testing you to see if you are sincere.

What's In It For Me? (WIIFM)

Besides relationship building, a second important aspect of this book's approach is the emphasis on appealing to intrinsic motivation. Whatever they are being asked to learn, students need to know "What's in it for me?" (or WIIFM). I'm not referring to stickers, candy, pizza parties, or other rewards. Students need to understand how engaging in SEL or character development is going to add quality to their lives, both long-term and short-term. Holding class meetings on the benefits of demonstrating positive character in general and then on specific SEL skills (e.g., impulse control, delaying gratification, cooperation, etc.) will help them recognize why they are being asked to engage in character development, even if it isn't "on the test." In addition, because most students live in the present, they need to experience SEL teaching strategies that are engaging or needs satisfying. So as a student, even if I don't see an immediate need in my life for, say, empathetic listening, if I learn the skill through an active, novel, and enjoyable learning strategy, that alone will most likely be enough to internalize my motivation to participate and learn.

While most of this book's chapters include some direct teaching, each minilecture is accompanied by student-centered activities—games, skill practice, role-plays, and the like—that appeal to a variety of learning styles and personality types. Also, every activity and strategy in this book is designed to appeal to students' intrinsic motivation by appealing to one or more of their five basic needs (explained in detail in Chapter 3). Also, because SEL is inherently about them, students tend to find it intrinsically engaging. If you experience resistance to SEL in general or to a specific activity, and you've already evaluated your relationship with the resistant students, you might need to examine (1) how well you explained (or involved the students in examining) what's in it for them in the long and short term or (2) how engaging your teaching strategies are.

Internal Control Psychology

Finally, as noted in the introduction, internal control psychology, specifically Glasser's choice theory (CT) and how it relates to social-emotional knowledge and skills, makes up the core content of the book. Generally, each chapter is devoted to one component of CT, including information that can be directly taught followed by activities designed to help students integrate and internalize the learning. The knowledge and skills build from one chapter to the next, incorporating and expanding on those previously learned. While CT is the principal theory investigated, I don't believe any one theory or model has all the answers, so throughout the book, I have included (and cited) ideas and strategies from a variety of other sources that expand and support choice theory. Through the information and skills presented in these chapters, students will gain the following benefits:

- An understanding of their locus of control
- An understanding of themselves and others' motivation
- An appreciation for their common humanity as well as for individual differences
- An understanding of how their perceptions form, and an appreciation for the role of perceptions in their lives
- An ability to recognize and identify their own and others' emotions
- An ability to regulate their emotions
- An ability to control impulses and delay gratification
- An ability to create a personal vision, set goals, and plan effectively
- Strategies to reduce stress and anger
- An ability to self-evaluate their behavior
- The ability to take others' perspectives
- The ability to experience empathy
- Social skills for a variety of social contexts
- Skills for building and maintaining relationships

Mastery, or at least competence, in these social-emotional skills is necessary for character development. Learning and applying these skills encourage and

enable, among other important character traits, personal and social responsibility, respect, perseverance, self-control, compassion, and a strong work ethic.

This Book's Approach Versus the Criteria for Effective Character or SEL Programs

Although *Inspiring the Best in Students* is not, in and of itself, a complete program, it does include many of the characteristics of effective character and SEL programs. It is *sequenced*, intended to be taught in a step-by step, chapter-by-chapter order; it is *explicit*, listing the specific knowledge and skills being taught in each chapter; it involves *direct teaching* (i.e., lecture) and *active* learning, using multiple engaging student-centered activities throughout; it encourages *curriculum integration*, explaining specific "curriculum connections" in each chapter; and it emphasizes *intrinsic motivation*, avoiding the traditional reward-and-punishment approach to motivation.

The final chapter suggests ways that schools might address the rest of the criteria for effective programs—namely, professional development, focus, modeling and mentoring, and parent and community involvement.

EDUCATION

inspiring
THE BEST IN STUDENTS

JONATHAN C. ERWIN



How can teachers connect with and motivate students to embrace learning? According to Jonathan C. Erwin, the secret lies in forging positive relationships with students by meeting their individual social-emotional needs.

Inspiring the Best in Students includes step-by-step instructions for dozens of classroom activities for grades 3–12 that help build student-teacher relationships while teaching both content and skills. Also included is a thorough overview of William Glasser's Choice Theory and such core teaching and learning concepts as internal control psychology and total behavior.

The more students are given the freedom to make choices in a safe environment while also having fun, the more their enthusiasm for learning deepens. By following the advice in this book, you can ensure that the students in your class will remain engaged and inspired to achieve their best.

JONATHAN C. ERWIN has been a middle and high school English teacher for over 11 years and is currently the director of training and curriculum for Smart Character Choices, a Michigan-based character education initiative. He is the author of *The Classroom of Choice: Giving Students What They Need and Getting What You Want* (2004).

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To my grandparents, Dorothy L. Colbert-Blake, Robert T. Colbert Sr.,

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had the opportunities I now enjoy.

Thank you all for your sacrifice and your

lavish, unfettered love.

NEVER WORK harder THAN your students

& OTHER PRINCIPLES OF GREAT TEACHING

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PREFACE

The Gift

I loved being in Dr. Benn's English 301 class. Sure, we were learning pretty boring stuff—past participles, nominative predicates, and the like; but, something about the way he parsed a sentence seemed, well, *profound*. It was as if he were unlocking the very secret of language itself. I'm not kidding. We would sit in his class in rapt attention for 90 minutes straight. Sometimes, I think I even forgot to breathe.

It wasn't just the way he explained some obscure phrase in a poem that did it. No. He made us feel *smart*. He had a way of asking questions that led us to the discovery of the answer ourselves. Years later, I realize that he was using Socratic questioning; but, as a college freshman, I just thought he had it. He had the gift.

*

Five minutes into talking to Sarah and I knew she had "the gift." It was more than just her enthusiasm—I'd seen that plenty of times before. It was that she literally vibrated with a love for teaching. I watched her eyes light up as she shared how she got to know each of her students individually and learned to tailor her instruction to their needs. Her voice quivered with excitement as she talked about the growth her students made by the end of the year. The interview went on for 20 more minutes, but I had already decided to hire Sarah. She had the gift.

*

From the moment I entered Laura's classroom, I was excited. It was contagious. At first, I couldn't understand why. It seemed like a typical history class—she was showing slides of the artwork of the Renaissance—but something was different. I watched as she put the next slide on the screen. As if on cue, students jumped out of their seats to hold an 8.5 x 11 inch white board up to the screen and highlight what they noticed about the picture. They were explaining to the class how what they noticed indicated something about the Renaissance—the society, the social norms, the way of thinking. The students were having excited discussions about the influence of the Renaissance on modern thought and making comparisons between the Italian and English versions of the Renaissance. Laura asked a few probing questions and changed the slides every so often, but she largely remained quiet and let the students drive the discussion. She has it, I thought to myself as I left the classroom. She had the gift.

*

If you asked me to define "the gift" back then, I wouldn't have been able to do it. I just knew it when I saw it. I'd walk into a classroom and see a teacher completely engaging a class full of squirmy 9th graders and I knew that teacher had "the gift." I'd read a book written by one of those master teachers, those legendary ones who make you want to be a teacher yourself, and I wanted to touch the hem of that teacher's garment to see if it rubbed off on me. The gift.

When I first became an educational consultant and worked with districts to improve the quality of teaching in their schools, I began to wonder if the mythology surrounding teaching was true. What if "the gift" really was some innate talent, some rare, mysterious, divine endowment? What if it couldn't be taught? If so, I was in the wrong business.

Clearly there are some people who are born with it. They have a natural propensity to be master teachers. But, is there hope for those of us who

weren't so lucky? If "the gift" were something that was bestowed upon the blessed few, what, I wondered, would become of the rest of us?

But, after years of working with teachers and school leaders, I now know that "the gift" is not some mysterious birthright. In fact, it's not really a gift at all. Being a master teacher is the result of a critical understanding of the principles of good teaching. It's a mindset that anyone can learn and by learning this mindset, you too can become a master teacher. True, some people come by this mindset naturally, but the rest of us can develop it too.

This book will show you how.

My Story

When I first started teaching, I applied all the theories I had learned in my methods classes to my students. I didn't smile at them for the first month. I wrote lesson plans every day. I faithfully followed the book. I used proximity when they were talking out of turn and followed that up with a rigid set of consequences. I posted and enforced my classroom rules—all 10 of them. I created elaborate differentiated lessons designed to tap into each student's learning style and multiple intelligences. I used technology. I used collaborative learning, cooperative instruction, inquiry-based learning, multiculturalism, you name it. But, it wasn't working. They, and I, were simply going through the motions.

The problem, I thought, was that I needed new strategies. So, I expanded my repertoire. Sometimes the strategies worked, sometimes they didn't. Either way, I was working awfully hard. In fact, not only was I working much harder than my students, I was starting to see diminishing returns.

The assignment I was so excited about, the one that took me two weeks to plan and prepare for, didn't excite my students as much as I had hoped. That really cool strategy I picked up at a conference didn't work as well as the presenter had promised. Although I was acquiring a large repertoire of skills according to the textbooks and my evaluators, I wasn't seeing the payoff in the classroom. My students still struggled, they were still bored, and to be honest, I wasn't sure that they were learning anything.

Finally, I decided that perhaps I just needed more time, smarter students, more supportive families, stronger leadership, and more money. But, after

beating my head against *that* brick wall for a while, I realized that I had better chances of winning the lottery—and I don't play the lottery.

Still, I knew that there was a fundamental difference between much of what I was taught to believe about teaching and what I was experiencing in the classroom. So, I spent the next year reading everything I could get my hands on. I pored through books about teaching. When I heard of school districts or teachers somewhere making a difference, I called them and grilled them on what they were doing that worked. If I read a really good research article about teaching, I hunted down the author and asked follow-up questions. I attended conferences. I observed successful teachers and tried to uncover their secrets.

Then, I tried out what I was learning on my students. I raised my expectations. I started an online community to help build my students' capacity and independence. I created tiered assignments. I looked at the data. I took them on trips to expand their experience. I even baked them cookies if they registered to take the AP exam in the spring. Sometimes, these things worked really well. Other times, at least I did no harm.

What I eventually learned was that there was no magic in the strategy. It wasn't so much what I did that made a difference, it was how I thought. I started to ask myself why certain techniques worked and others didn't. I soon noticed that when a strategy was wildly successful, it had more to do with the fact that I honored a principle than the strategy itself. When a strategy was less successful, that too could be directly related to a principle I violated. Almost without realizing it, I was slowly incorporating principles of effective instruction into my practice.

As I began to pay attention to the principles rather than the strategies, I noticed a powerful shift in the way that I thought about teaching. Before, teaching for me had been a matter of applying the right strategy in the right way at the right time. As I studied effective teaching, however, I began to focus less on what strategy or technique I would use, and more on why I was doing what I was doing. Instead of trying to acquire more or better strategies, I worked on understanding the principles that undergird good teaching.

Paying attention to the principles also forced me to look at my disposition toward teaching and my students. I realized that much of what I was doing in the classroom was designed to serve my own ego needs rather than help my students learn. I wanted my students to do well because their doing

well meant that I was a good teacher. I wanted my students to grow up to be famous and give Oscar acceptance speeches that ended with, "And it was all because of Dr. Jackson. She turned my life around." I wanted to be the teacher they made a movie about. This is why I was so frustrated because a lesson didn't work or my students didn't achieve as much as I wanted them to. It was about my needs.

Once I understood that the problem wasn't my students—that it had more to do with the way I thought about teaching rather than their inadequacies—I was free to look at my students differently. I shifted my focus from trying to manipulate my students to learn to showing them how to learn and helping them see the value in learning. I moved from trying to find just the right strategy to making sure that I faithfully applied the principles of effective instruction. Concentrating on the principles rather than the strategies and my own ego needs freed me up to actually teach.

As the school year passed, I began to notice radical changes happening in my classroom. Because I no longer used my teaching to meet my own ego needs, I was free to enjoy my students. When they faltered, I didn't take it personally. Instead, I focused on helping them understand why they failed and how to correct their mistakes. My process was messier, but much more successful.

I noticed that my students began to relax. They asked questions and tried to understand not just what we were doing but why it was important. They came to class prepared to do the work and when they were in class, they worked hard. I believe that they could see the shift in me—that now, I was focused on their success. I saw them as fundamentally capable and therefore stopped trying to protect them from the messiness of learning. Learning is frustrating. Mistakes will be made. When they saw me take risks in my teaching they learned that they too were safe to take risks. They learned that learning was the hardest, most demanding, and ultimately, most rewarding thing they could ever do.

It wasn't magic. You wouldn't be able to make a two-hour Hollywood movie about the changes that happened in my classroom. There were days when the messiness of learning was, well, too messy for us. We didn't always arrive at closure by the time the bell rang. There were days that my students and I left the class frustrated. On those days, I would remind myself and them that the frustration was a natural part of learning. I kept coming back

to the principles, and held onto them even when it looked like they weren't working.

It made all the difference in my teaching. Suddenly, I too had the gift.

The Master Teacher Mindset

There are many books out there that break teaching down into discrete behaviors or offer a laundry list of strategies that, if you just try them, will make you a good teacher. This is not one of them. Instead, I believe you don't become a master teacher by simply doing what a master teacher does. You become a master teacher by thinking like a master teacher thinks.

All of us know the facts of teaching. What separates master teachers from the rest of us is that they know how to think about teaching. They have integrated the facts of teaching into their thinking and as a result, they do things automatically. From the outside, it looks like they have the gift. But on the inside, it is simply a matter of rigorously applying a few simple principles to their teaching.

When it comes to good teaching, I think we pay too much attention to the strategies, without fully understanding why those strategies work in the first place. What would happen if we didn't focus on the facts and behaviors of teaching? How much better might our teaching be if we focused on developing a mindset toward teaching instead?

I think that if we did focus on developing our teaching mindset, teaching would become fun again. Rather than worry about the next state-mandated test or the next round of evaluations, we would focus on helping our students understand the magic of a cell or the possibility of the written word, fully confident that no matter what test they faced, they would pass it. If we were to master this mindset, we would stop being batted around by the latest trend and focus instead on what makes the best sense for our students. If we shift our emphasis from what we do to how we think about what we do, it would dramatically alter the way that we diagnose student difficulty, assign homework, design tests, plan lessons, grade work, and see ourselves as teachers. In short, this mindset would take our emphasis off the minutiae of teaching and put it back where it belongs—on our students.

That is my hope for you as you read this book. I believe—and I hope you will come to believe it too—that the gift is not the exclusive domain of a

blessed few. In fact, it isn't really a gift at all. It is instead, a mindset, a disciplined way of thinking about teaching. And, with this mindset, the gift is ours, all of ours, for the taking.

ACKNOWLEDGMENTS

Although I would like to think of myself as a painter, creating a masterpiece from nothing more than a blank canvas, some paint, and the vision in my artist's mind, the time has come to admit that I am more of a collage artist. I take scraps of things other people have created and put them together, hoping that the total sum will be greater than its parts. And so, this book is a collage of all the gifts given to me by the very brilliant people in my life.

The master teachers in my life—Cynthia Gill, Tom Gillard, Helen Marshall, Esther Mattox, and Marjorie Richardson—gave me wisdom. Experiencing their classrooms and working alongside them has made me a better teacher.

Any understanding I have of the way schools work and the best way to reach teachers I took from Traci Townsend and Dannette Lartique-Menaker, who started this consulting journey with me many moons ago; Nicole Brown, Dr. Donna Redmond-Jones, and Valda Valbrun who, by being my own personal cohort of experts, keep me grounded professionally; Michael "The Turtle" Zarchin and Erika Huck who taught me how to lead a school; Dr. Frank Stetson and Steve Bedford who trusted me enough to allow me to find my own path as an administrator and teacher; Dr. Genevieve Floyd and John Q. Porter who supported me along the way; and Rasheed Meadows, Sherwin Collete, Linda Ferrell, and Lawrence Pendergast, who remind me all the time what truly visionary leadership is all about.

From Shauna Leung, I took the beginning of an idea. Her question two years ago about what good teachers do became in many ways the genesis for this book. And by playing Spock to my Kirk, Mohamed Ali inspired me to develop the framework of this book around principles rather than strategies.

To even believe that I could write a book, I took courage from Dr. Sara Kajder, who showed me that it could be done; Doug Schiffman, who continues to give me brilliant advice all for the price of a plate of pancakes; my attorney Shawn Wright (who has enough faith in Mindsteps for both of us); and Melissa and Allessandra Bradley-Burns, who convinced me I could do it when I wasn't so sure.

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From my parents Frank and Gail Jackson, my sister Sheri Jackson (who is, by the way, my absolute favorite person in the entire universe), my uncles Daryl Colbert, Bobby Colbert, and Gregory Jackson, and my dear friends Melissa Preddie, Dr. Dawn Nelson, Jonathan Morgan, Charles and Katina Taylor, Dolores and Bill Miller, Shaun Robinson, and my Dupont Park Church family, I continually take my anchor. Their love and unfailing support make it possible for me to do what I do.

And finally from the teachers who have trusted me to help and support them over the years, I took my purpose. By opening their classrooms and sharing their stories with me they remind me again and again that this work of providing every student with a quality education is the hardest, most important, most rewarding work there is.

Together, these marvelous people have given freely to me and, as a result, they are co-creators of the collage of ideas you hold in your hands. In return, I give them all my deepest gratitude.

INTRODUCTION

> As to methods, there may be a million and then some, but principles are few. The man who grasps principles can successfully select his own methods. The man who tries methods, ignoring principles, is sure to have trouble.
>
> *Ralph Waldo Emerson*

I am going to say something scandalous: Just because we went to school for teaching doesn't mean that we come out of school as master teachers. Even if you were a good student in school, it does not mean that you will be a good teacher. The tasks you were asked to do in school are fundamentally different from the day-to-day tasks you are asked to do as a teacher. In fact, most teachers will tell you that although their education courses and their student teaching gave them a good theoretical background, what they really learned about teaching, they learned on the job.

But teaching for many years is not enough to make you a master teacher either. There are some teachers who have been teaching for more than 20 years and still think and behave like novices; other teachers have become master teachers after only a few years of experience. And, the sad truth is

that some of us never become master teachers no matter how many years we've been teaching.

Experience alone does not make you a master teacher any more than practicing scales twice a day makes you a concert pianist. Mastery teaching is not about the time you put in. It's what you do with your time that counts.

You see, mastery teaching requires specific, intentional practice.

That's good news because it means—and this book is built on this very premise—that *anyone can become a master teacher with the right kind of practice*.

This book will help you get that kind of practice. And the more you practice the principles of this book, the more you will begin to think and act like a master teacher. I call this process developing a *master teacher mindset*.

What Is the Master Teacher Mindset?

The master teacher mindset is really a disposition toward teaching. It is a way of thinking about instruction, about students, about learning, and about teaching in general that makes teaching fluid, efficient, and effective.

Many of us think that in order to be a good teacher, we need to have all the answers. We focus our time and energy accumulating strategies and skills, hoping that if we have a big enough bag of tricks, we will be prepared to face whatever happens in the classroom. The master teacher mindset means knowing that having all the answers isn't nearly as important as knowing what questions to ask. It means knowing that if you ask the right question the question itself will lead you to the information that you need to examine in order to find the answer. Good questions reveal what information is relevant, when information is sufficient, and how that information should be used appropriately.

The master teacher mindset also means knowing how to ask students the right questions, the kind of questions that lead to deeper thinking, increased motivation, and more student ownership over their own work. Master teachers spend more time refining their inquiry skills and their own curiosity than they do collecting strategies and skills.

Most of us experience a problem and quickly rush to find a solution. Developing a master teacher mindset means knowing that defining the problem correctly makes it more likely that you will find the appropriate

solution. Master teachers spend more time thinking about why the problem is occurring than they do trying to find solutions. They examine the problem from all sides. The master teacher mindset means being willing to own your own contribution to the problem but at the same time, being reluctant to cast blame on others because you know that casting blame is not nearly as useful as looking for causes. Master teachers are willing to confront the brutal facts of their reality and account for those facts when developing a solution.

The master teacher mindset means not trying to teach like anyone else. Instead, you teach in ways that fit your own style. At the same time, you look for ways to make your teaching style relevant to your students' needs. Master teachers understand that there isn't just one way to teach and that effective teaching can be accomplished in a myriad of ways. They find ways that work for them *and* their students.

At the end of the day, most of us are so exhausted, we just want to go home, wade through the stack of papers we need to grade, plan for the next day, and go to bed. We rarely take the time to meaningfully reflect on our teaching. But with a master teacher mindset, you understand that meaningful reflection is critical to honing and refining your teaching craft. Master teachers take the time to reflect on their teaching in order to expose unwarranted or harmful assumptions they may hold, reveal fallacies in their thinking, illuminate problems, and determine directions for new growth. They see reflection as a necessary part of their day.

Ultimately, master teachers don't just magically develop the master teacher mindset. Teaching requires a vast body of knowledge. We have to know pedagogy, but also must be experts in our subject area or areas. This huge body of knowledge can be an overwhelming hodgepodge of largely disconnected facts, unless we have a system for organizing the information. Master teachers learn how to organize their teaching knowledge into meaningful patterns and from these patterns develop a set of key instructional principles. Their entire instructional practice is governed by this small set of core principles and they rigorously select strategies and teaching approaches based on these principles rather than become enamored with every new strategy or technique that becomes in vogue.

I call these principles the mastery principles and the rest of this book is devoted to helping you learn to apply them to your own teaching practice.

The mastery principles are

1. **Master teachers start where their students are.**
2. **Master teachers know where their students are going.**
3. **Master teachers expect to get their students to their goal.**
4. **Master teachers support their students along the way.**
5. **Master teachers use feedback to help them and their students get better.**
6. **Master teachers focus on quality rather than quantity.**
7. **Master teachers never work harder than their students.**

Master teachers often have a difficult time explaining the decision-making process that makes them masterful in the classroom. They have practiced these principles for so long that much of what they do has become automatic and seems almost natural. In the same way that learning to drive initially requires a lot of conscious effort and attention but eventually becomes so automatic that we rarely think about it, the disciplined practice of the master teacher principles will at first seem very awkward but will soon become automatic. Once you have practiced these principles to the point where they become automatic, it will take very little effort to maintain them.

You may be surprised that none of these principles seems especially earth shattering. They almost seem to be common teaching sense. Most of us know already that we need to set goals or to assess student progress. We learn it the first day in college. It's Teaching 101.

I would venture that most of us will claim we are already abiding by these principles in our daily practice. We already set high expectations for our students. We already try to get our students to do their own work. After all, what teacher will admit "I don't have high expectations for my students," or "I don't provide my students with the supports they will need to be successful"?

So why is it that so many of us still find teaching so challenging? Why is it that we are still not successful with *all* of our students? If the principles are so effective, and if we are already using the principles in our daily practice, why are we still struggling to reach every student, every day?

Here is the crux of *Never Work Harder Than Your Students and Other Principles of Great Teaching*. We all learned these principles in school, but what separates master teachers from the rest of us is that master teachers learned how to use the principles effectively, and rigorously apply these principles

to their teaching. In fact, these principles have become such an integral part of their teaching that master teachers no longer have to consciously think about them. Applying these principles has become a natural response to students' needs.

Wouldn't it be marvelous if good teaching became that natural to all of us? Wouldn't it be wonderful if we no longer had to struggle through every teaching challenge? Wouldn't it be fantastic if we got to the point where we were faced with a teaching challenge and could quickly and automatically figure out how to address it effectively? Wouldn't it be great in short, if we all thought like master teachers?

Many of us for years have been looking for a way to do just that. So, we go back to school and get more degrees, or attend professional development workshops to gain new strategies, or spend our summers taking classes in the latest instructional approach, or read books that promise us "the secret" to improving our teaching.

But the master teacher mindset is not simply a response to good training. We don't go through school and come out automatically thinking like a master teacher. The master teacher mindset develops as a result of systematically taking all that we know about teaching, organizing it into a few governing principles, and rigorously applying these principles to our teaching until they become our spontaneous response to students in the classroom. The more we practice these principles, the more we begin to think like master teachers.

How to Use This Book

If you are a teacher, this book will help you figure out where you are on your journey to becoming a master teacher and how to move from one stage to the next. For staff developers and instructional leaders, this book will help you learn how to support teachers on their journey to becoming master teachers by helping you diagnose where they are on that journey and showing you how to help them reach that next step.

At the end of this introduction is a self-assessment to help you diagnose where you are on your journey toward becoming a master teacher. Take the assessment and give yourself two scores: an overall score to assess where you are on the master teacher trajectory, and an individual score for each principle. You can use your overall score to focus your reading of the chapters

and figure out how you can move to the next level. You can use your score in the individual principle to help you choose which chapters to read first and on which principles you need to spend the majority of your energy.

Chapters 1 through 7 outline each of the principles in more detail and explain how you can begin to practice the principle in your own classroom. Each chapter begins with a vignette that illustrates what most of us were taught about teaching and the challenge that such thinking often presents for teachers. Then, you will be introduced to a principle and the research that explains why the principle is important. The next section, *Practicing the Principle,* gives you concrete advice about how you can integrate the principle into your own practice and provides practical examples of how the principle plays out in the classroom. These strategies are grouped under the heading *Try This.*

Throughout each chapter are sections that address any hesitation you may be feeling by providing you with suggestions for overcoming your resistance. These sections, titled *Yes, but. . .,* provide responses to common objections you may be having as you are reading the chapter. They will help you resolve some of the practical challenges that would otherwise get in the way of your being able to implement the principle.

Each chapter ends with a section entitled *Getting Started,* which summarizes the main steps to applying the principle. You can use these steps to help you focus your thinking on the most important points of the chapter and as a reminder of the ways you can begin to apply the principle in your own classroom. This section also provides concrete steps you can take to move from where you are (as determined by your overall score on the self-assessment) to the next level in the mastery trajectory.

Chapter 8 will take you step-by-step through the process of moving toward becoming a master teacher by systematically applying the master teacher principles to your practice. It helps you develop a viable action plan that you can immediately put into place, discusses the challenges you may face, and provides resources for getting support as you improve your teaching. It can also serve as a great reminder three to six months down the road to help you analyze your progress, tweak your plan, and stay the course. To keep you up to date on the latest resources and to help you extend your thinking once you have finished this book, I have also created a companion website at www.masterteachermindset.com where you can download additional resources.

The pathway to becoming a master teacher is by no means linear; there is more than one pathway to expertise. You may develop expertise in one area and still be at the novice level in another area. Thus, although I think it's best to read each chapter in order, you can figure out in what principle you received the lowest score, flip right to the chapter where that principle is covered, and discover ideas and strategies that will help address your immediate needs. Later, you can move through the rest of the book at a more leisurely pace and see how all of the principles connect.

However you choose to use this book, I hope it will inspire you to take a close look at your teaching, to challenge some of your assumptions about both teaching and the way that students learn, and to adjust your instruction or your instructional leadership so that your students can learn more effectively. Developing a master teacher mindset will change the way you feel about students, about learning, and about teaching in general. Your values will evolve. Your interest in your subject and in teaching will be revived. Your identity as a teacher will expand. In the process, you will rekindle your sense that what you do truly makes a difference in the lives of your students. And most of all, I hope that by reading this book you too will discover for yourself the gift that good teaching really is.

The Mastery Self-Assessment

Mastery cannot be measured in the number of years you've been teaching. It is measured by how well you apply the mastery principles to your teaching. Thus, the first step to moving toward mastery is to assess how well you are currently applying the mastery principles to your own practice by taking the quiz on the following pages. Answer each question as honestly as you can; think not about what you would like to do, but about what you are currently doing in your own practice. There are no right or wrong answers.

Use the scoring sheet on page 22 to keep track of your answers. Next to each number, write your answer to that question in the box provided. When you are finished answering the questions, use the scoring sheet to give yourself two scores. First, calculate an overall score. Then, give yourself an average score for each mastery principle. Your overall score will be between 49 and 196. Your average score for each principle will be between 1 and 4.

1. Which of the following statements is most true for you?
    a. I tend to look at my class as a whole and think of my students in terms of their group characteristics.
    b. I see my class as a group of groups and cluster certain students together.
    c. I see each of my students as individuals.
    d. I pay attention to the individual needs of my students but also notice how those needs and individual characteristics interact in the entire group.

2. Which of the following best represents what you do when you are faced with a new curriculum?
    a. I use the lesson plans included in the curriculum guide.
    b. I figure out how I will cover all of the material in each unit and start creating lesson plans.
    c. I look at the assessment at the end of each unit and back map my plans from there.
    d. I use the assessment to figure out what the need-to-knows are and determine how well students need to know each objective. Then I plan the assessments and learning activities based on each objective.

3. When a student does poorly on a test you think
    a. The student did not study hard enough.
    b. It was a poorly designed test and I will need to make a better one next time.
    c. The student did not understand the material. I will need to remediate so that he or she will do better on the next test.
    d. I need to work with the student more carefully to ensure that he or she does better on the reassessment.

4. When you examine data, you
    a. Consider all available data before making an instructional decision.
    b. Examine only the whole class data before making an instructional decision.

c. Examine both whole class data and individual student data when making an instructional decision.
d. Examine only the data that gives me the best feedback that will help me reach my goals and deliberately ignore the rest when making an instructional decision.

5. Which of the following statements is most true for you?
   a. I am still learning my discipline and I try to stay at least one step ahead of my students.
   b. I understand my discipline well enough to teach it although there are times when I get stumped as to how to explain something to a student.
   c. For the most part I understand my discipline and have more than one way of explaining the major concepts to students.
   d. I understand my discipline and take time not only to explain the concepts and skills to my students but also to show them how to learn my subject on their own.

6. Which of the following statements is most true for you?
   a. I follow the curriculum guide step by step and try to cover everything.
   b. I follow the curriculum guide as well as I can but I realize that I cannot get to everything.
   c. I pick and choose what I want to teach from the curriculum guide and try to cover those things that I think are most important.
   d. I assess the curriculum guide and divide it into those things students absolutely need to know in order to master the learning objectives and those that are nice to know.

7. Which of the following statements is most true for you?
   a. I am working much harder than my students.
   b. I am working somewhat harder than my students.
   c. I am working about as hard as my students.
   d. I am doing my work as the students do their work.

8. When faced with a discipline problem in the classroom, what do you do?
    a. Look for a solution.
    b. Try a variety of solutions to see which one works best.
    c. Think about what may be causing the problem and select a solution that fits the situation.
    d. Look for patterns and develop a solution that will address not only the surface problem, but the underlying causes revealed by the pattern.

9. When you look at the curriculum standards, what is the first thing you do?
    a. Try to figure out how I am going to teach them all in the time I have.
    b. Try to figure out which assignments and activities will best help my students achieve the standards.
    c. Try to figure out what assessments I will use so that I will know when my students have mastered the standards.
    d. Try to figure out whether the standard is asking students to master content or a process.

10. What causes your success or failure in the classroom?
    a. It depends. Some days things go well. Other days, they just don't. You really can never tell how things will go.
    b. It depends on how difficult the teaching task was. If it is an easy teaching task, I am likely to be successful. But, the harder the teaching task, the less likely I am to be successful.
    c. It depends on how good of a teacher I am. When things go well, it is because I am good at that part of teaching. If things go poorly, then it means that I do not have that teaching skill.
    d. It depends on my effort. If things go well, it is because I worked really hard at making sure that things went well. If things go poorly, then it means that I have to work harder to make sure things go better the next time.

11. When you grade students' papers, you
    a. Write a great deal of comments on their papers to point out where they went wrong.
    b. Mark student errors but write few if any comments. The final grade is what matters to students.
    c. Make a few marks and write summary comments at the end to give students an overall assessment of their performance.
    d. Mark student errors and write only comments that will coach students towards better performance next time.

12. When a student seems to misunderstand a concept, you
    a. Press ahead and hope that the student will understand later.
    b. Try to meet with the student after school or during lunch to clear up his confusion.
    c. Give the student an alternate reading or supplementary materials to help clear up his confusion.
    d. Try to understand why the student is getting confused and then work to clear up his confusion.

13. When it comes to homework, you
    a. Assign homework just about every night. I think it is important that students have homework.
    b. Use homework as a way to cover those things I just can't cover in class.
    c. Use homework to help students develop good study habits.
    d. Use homework to provide students with independent practice for those things we have learned in class.

14. Which of the following statements is most true for you?
    a. I keep track of my students' grades. If students wants to know how they are doing in my class, they can ask me or wait for the progress report or the report card.
    b. I keep track of my students' grades but I regularly post their grades online so that they can also keep track of how they are doing.

c. I keep track of my students' grades but I post them regularly and also show students how they can track their own grades and figure out their course average.
d. I keep track of my students' grades but I also require that they track their own data. In fact, analyzing their own achievement data is a part of how we regularly run class.

15. When it comes to "soft" skills such as how to study or organize their notebooks, you
    a. Expect my students to know how to do those things already. It is not my job to teach them how to study or organize their notebooks.
    b. Require that my students use specific skills in my classroom. I give them a quiz on the chapters I assign for homework to make sure that they study and conduct notebook checks to make sure that they keep their notebooks organized.
    c. Show my students how to gain these skills. For instance, I give students a study guide and I have a system for how notebooks should be organized.
    d. First look at how students are studying and organizing their notebooks, and then show them how to improve what they are already doing.

16. When you write objectives, you usually
    a. Try to state them using the wording favored by the district.
    b. Figure out what activities I want my students to complete and list them.
    c. Figure out what concepts or skills I want my students to master.
    d. Figure out what I want students to learn and then how I can communicate that in a way that students will understand.

17. You believe that
    a. All students can achieve at high levels if they have supportive parents, a strong educational foundation, and have the innate intellectual skills they need.
    b. All students can achieve at high levels if they are motivated to do so.

c. All students can achieve at high levels if they are given the proper support in school.
d. All students can achieve at high levels and can actually get even smarter if they are taught how to exert effective effort.

18. After you have graded a set of papers, you
    a. Record the grades in my grade book.
    b. Record the grades and look to see which students passed and which students failed.
    c. Record the grades and get a general sense of how the class is doing as a whole.
    d. Record the grades and, based on student performance, figure out how I need to adjust my instruction going forward.

19. When a student has demonstrated that he or she has mastered the objectives of my unit already, you
    a. Give the student an A.
    b. Ask the student to help some of the other students in the class who haven't gotten it yet.
    c. Try to find an enrichment activity for the student that can be done while the rest of the class works through the unit.
    d. Take what I am already teaching and introduce more complexity and ambiguity into the concepts and skills to keep the student challenged.

20. Which of the following statements is most true for you?
    a. I stick to the curriculum guide.
    b. I stick mostly to the curriculum guide but I do include a few assignments that are just for fun.
    c. I use the curriculum as a guide but I add in assignments that cover material that I think is important or enjoyable.
    d. I choose what I teach based on what assignments will best help my students master the objectives stated in the curriculum guide.

21. Which of the following statements is most true for you?
    a. I try to give my students as much help as I can but sometimes I wonder if I am really doing the work for them.
    b. I try to limit the amount of help I give my students because they are going to have to learn how to learn on their own. They won't have the same supports once they get to the next level.
    c. I try to balance helping my students with teaching them to be independent, but there are some times when my students seem unable to figure things out on their own.
    d. I only give my students just enough help so that they can figure out how to do things on their own.

22. When your students come to class without the "soft" skills that they need to be successful, you
    a. Talk to their counselors to make sure that they are properly placed in my class.
    b. Try to teach students the skills the students need even if it means that I don't always get through my entire curriculum.
    c. Look for ways to help students acquire those skills that are most necessary while trying to get through as much of my curriculum as I can.
    d. Look for ways I can show students how to capitalize on the skills that they do have in order to acquire the skills that they don't have.

23. When it comes to assessments, you
    a. Use the ones included in the curriculum guide.
    b. Write my own usually after I have taught the unit.
    c. Write the assessment after I have planned the unit once I have a sense of what material I will be able to cover.
    d. Write the assessment prior to planning the unit.

24. When you look at data, you
    a. Select which data I will pay attention to. I tend to focus on the data I know and understand and disregard the rest.

b. Look at all of the data but sometimes make excuses for the information that is unfavorable.
c. Average the data. As long as most of the students are doing OK or my averages are high enough, then I am fine.
d. Consider all of the data important and consistently analyze the information in terms of individual student progress rather than averages.

25. During class discussions, your typical response to students' answers can best be described as
a. Praise: I want to encourage them to participate so I praise them even if the answer is not exactly right.
b. Evaluative: I want to encourage them to participate, but I also want them to know when they have given the wrong answer.
c. Corrective: If they give the wrong answer, I want to show them where they went wrong so that they will know how to give a better answer next time.
d. Coaching: If students give the wrong answer, I want them to figure out how to arrive at the right answer.

26. You decide how to help a struggling student
a. Once the student has failed the marking period.
b. Once the student has shown that he or she is failing at the interim report.
c. At the first sign the student is struggling (usually a failed quiz or test).
d. Before the student begins to struggle.

27. When teaching a new skill or concept, you
a. Try to cover it as best I can given the time I have.
b. Make sure that my students know it well enough to pass the test.
c. Make sure that students know it in their sleep.
d. Decide whether students need to know it to the level of automaticity or controlled processing.

28. Which of the following statements is most true for you?
    a. Sometimes I am so busy trying to deal with my students' outside problems that I have a hard time getting to the curriculum I am supposed to teach.
    b. I cannot solve all of my students' problems, so I just ignore them and focus on what I can do in the classroom to help them learn.
    c. I recognize that my students' outside problems do influence what they do in my classroom, so I try to find a balance between helping them solve their problems and mastering the curriculum.
    d. I recognize that it is not my job to solve all of my students' problems, so I focus on finding ways to help them develop the skills they need to solve their own problems.

29. When students do not meet your idea of what makes a good student, you
    a. Question whether the student is motivated.
    b. Question whether the student is academically capable.
    c. Question what I can do to get the student to meet my expectations.
    d. Question whether my expectations fail to consider alternate ways of demonstrating mastery or motivation.

30. You communicate the learning objectives to students by
    a. Posting them on the board each day.
    b. Posting them on the board and reading them to students at the beginning of class.
    c. Posting them on the board, announcing them to students at the beginning of class, and listing them in my syllabus or in letters home to parents.
    d. Posting them in class, explaining them to students either verbally or in writing, and listing them in my syllabus and in parent communications.

31. How would you characterize yourself?
    a. I am an optimist. I believe that all my students will learn.
    b. I am a realist. I know that some students will not learn because of the various constraints they face.

c. I am a pragmatist. I believe that all students can learn, but they may not all be able to learn from me.
d. I am a visionary. I believe that all students can learn and that it is my job to figure out how to best make sure they learn in my class.

32. When you notice that a lesson is not working, you
a. Press on anyway and hope that things will get better.
b. Switch tactics and try something else.
c. Use more explanatory devices or other instructional strategies to help students become engaged and to facilitate more student understanding.
d. Pay attention to the feedback I am getting from students and make adjustments to the lesson to better meet students' learning needs.

33. When planning your lessons, you can predict where students may become confused based on
a. What material seems to have the most explanation in the curriculum guide.
b. What material was confusing to my students in the past.
c. What I know about my subject and the common misconceptions that exist.
d. What I know about my subject and where students are in their conceptual development.

34. In order for students to learn a new skill, you believe that
a. They need to study hard and memorize it.
b. They need to practice it from start to finish so that they can learn the entire process well.
c. They need to build on their emerging skills until they have learned to practice the entire process.
d. They need multiple opportunities to practice parts of the skill over time and master them, as well as opportunities to practice the full-length performance.

35. Which of the following statements is most true for you?
a. I haven't had a chance to establish routines for everything yet.

b. I use routines to keep students in line. I find that if we have routines, students are better behaved.
c. I use routines to help our class go more smoothly and maximize students' time on task. When there are routines, students can spend more time on learning and less time on logistics.
d. I use routines to help students take on more of the work in the classroom.

36. When you reward students, you
    a. Decide on a list of rewards and give them to students when they meet some criteria.
    b. Don't typically reward students. Learning is reward enough.
    c. Try to find rewards that I think will motivate students to keep up the good work.
    d. Pay attention to what students value and find a way to connect what they value to what they should be doing in the classroom.

37. How do you differentiate instruction?
    a. I group my students into high, medium, and low ability groups and plan three different lessons based on students' abilities.
    b. I group my students in high, medium, and low ability groups and plan three different versions of the same lesson.
    c. I focus on planning lessons that accommodate students' multiple intelligences.
    d. I plan one lesson that starts at the standard and make adjustments to that lesson designed to help all students meet or exceed the standard.

38. Which of the following statements is most true for you?
    a. Although I hold very strong beliefs about the value of what I do in the classroom, I am often so overwhelmed or pressed for time that my teaching practice often does not reflect those things that I really believe are important.
    b. I used to hold strong beliefs about the value of what I do in the classroom, but over time and after so many challenges, I am not so sure I believe the same way any more.

c. I still believe in the value of what I do in the classroom although my beliefs are tempered by the reality I face each day.
d. I believe that what I do is important and that belief only grows stronger the more I interact with my students.

39. In your class, an "A" grade means that a student
    a. Is passing my class.
    b. Is smart or potentially gifted.
    c. Has worked hard.
    d. Has mastered the objectives of the course.

40. If a student fails a test, you
    a. Record the grade.
    b. Offer the student extra credit opportunities to make up for the low grade.
    c. Figure out why the student failed and offer remediation.
    d. Institute some corrective action and allow the student the opportunity to retake the test.

41. When you evaluate your lesson plans each year, you
    a. Figure out how I can cover the material better next time.
    b. Figure out how I can combine activities or shorten the amount of time I spend on activities so that I can make better use of my time next time.
    c. Figure out how I can teach the assignments differently and more effectively so that my students can better master the objectives.
    d. Figure out what things I can stop doing so that I have more time to help my students master what is really important.

42. When students do not fulfill their classroom responsibilities, you
    a. Create new rules or responsibilities.
    b. Punish students.
    c. Find a system of rewards to motivate them.
    d. Hold students accountable by applying logical consequences.

43. Which of the following statements is most true for you?
    a. I feel that culture has no place in my curriculum.
    b. I don't change my basic curriculum, but I do try to include material such as stories or interesting facts and acknowledge the contributions from other cultures.
    c. I adjust my curriculum so that it includes multiple cultural perspectives.
    d. I alter my curriculum so that it can capitalize on my students' backgrounds, experiences, and preferences.

44. When creating learning objectives, how do you make them concrete?
    a. I state them in kid-friendly language so that my students can understand them.
    b. I try to figure out what the goal really means and what activities or assignments will best fit each goal.
    c. I try to figure out how the goal will be assessed and make sure that all the assignments and activities I chose are a good match for the objective.
    d. I try to figure out what mastery of the goal will look like and what steps students will have to take in order to achieve mastery.

45. Which of the following statements is most true for you?
    a. I believe that if I have the right strategies and resources, I can handle any teaching task I face.
    b. I believe that there are just some teaching tasks that I am not prepared to handle.
    c. I believe that most teaching tasks can be handled, but some are so difficult that I do not have the time or the resources to handle them effectively.
    d. I believe that there are some teaching tasks that are more difficult than others but that I can handle any teaching task if I realistically assess the situation and maintain unwavering faith that I will prevail.

46. You judge students' progress based on
    a. Their overall average in my class.

b. Their individual grades on tests, quizzes, and assignments.
c. Formative and summative assessment grades.
d. Various data sources such as formative and summative assessments, assignments, class discussions, and performance tasks.

47. What do you do when a student begins to struggle in your class?
a. I tutor the student one-on-one after school or during lunch.
b. I tell the student to come see me after school or during lunch. If the student chooses to come in, I will provide remediation. If not, then the student has chosen to fail.
c. I try to figure out why the student is having difficulty and provide him or her with help both in class and outside of class.
d. I implement a pre-determined intervention designed to quickly get the student back on track.

48. When selecting what assignments you will give to students, the most important factor for you is
a. What I can reasonably accomplish in the time I have.
b. What I enjoy doing and will be enjoyable for my students.
c. What makes the most sense given my students, my own teaching preferences, and the amount of time and resources I have.
d. What will most efficiently and effectively help my students master my learning objectives.

49. If a student is working on an in-class assignment and comes to me for help on a particular question, you
a. Give the student the right answer. I don't want the student to struggle.
b. Tell the student to ask another student or look up the answer.
c. Give the student progressive minimal cues.
d. Show the student how to find the answer himself.

Scoring Sheet

Give yourself one point for every A answer, two points for every B, three points for every C, and four points for every D.

Principle 1		Principle 2		Principle 3		Principle 4		Principle 5		Principle 6		Principle 7		Row Totals
1		2		3		4		5		6		7		
8		9		10		11		12		13		14		
15		16		17		18		19		20		21		
22		23		24		25		26		27		28		
29		30		31		32		33		34		35		
36		37		38		39		40		41		42		
43		44		45		46		47		48		49		
Principle Total		Principle Total		Principle Total		Principle Total		Principle Total		Principle Total		Principle Total		Overall Total
Principle Average		Principle Average		Principle Average		Principle Average		Principle Average		Principle Average		Principle Average		

Give Yourself an Overall Score

177–196 Points: Master Teacher

Good teaching for master teachers is fluid and automatic. They invest most of their time up front on planning and thinking through their teaching situation. Master teachers unpack the standards and set learning goals for students that represent minimum rather than maximum performance. Not only do they make conscious decisions about what students need to know and how well they need to know it, they decide early on what evidence of student mastery they will collect and use this feedback to inform their instructional decisions while helping students move toward reaching their learning targets. They incorporate supports into their instructional practice to catch students before they fail and appropriately balance the work of learning between themselves and their students. They recognize the currencies students bring with them to the classroom and help students use these currencies to acquire classroom capital. At the same time, master teachers base their expectations not on what their students can do, but on what *they* can do to help their students.

138–176 Points: Practitioner

Most veteran teachers score in the practitioner range. They have been teaching for a few years and make conscious choices about what they do in the classroom based on experience. They unpack the standards of their curriculum and have a pretty clear understanding of their learning goals, but they do not always break down these learning goals into concrete steps toward mastery. Practitioners align their assessments and learning activities to their learning goals most of the time and use this feedback to adjust their own instructional practice. However, they may not always provide students with the growth-oriented feedback they need to improve their own performance. Practitioners intervene with struggling students but may not always intervene *before* students begin to fail. And, although they confront the brutal facts of their reality, their faith is based on outside factors rather than on what they can do to change things. While practitioners recognize and appreciate the currencies students bring with them to the classroom, their focus is on helping students acquire new currencies rather than on showing them how to use the currencies they have already. As a result, in their attempts to balance the

work between themselves and the students, they still rescue students when things become too uncomfortable.

98–137 Points: Apprentice

Good teaching for apprentices is based on having the right strategy. They take time to understand curriculum objectives and how they can cover those objectives in the limited time they have. Because apprentices realize that some rules can be broken, they often pick and choose what activities they will use for each unit and decide early on what assessments they will use. However, they do not always use assessment results to inform future instructional decisions. Apprentice teachers make some attempts at differentiating instruction but base their instructional strategies on "high," "on-level," and "low" students rather than on individual student needs. They recognize that students have different abilities and values but attempt to get students to exchange their values for those that are accepted in the classroom. When students do not adopt these values or otherwise do not meet their expectations, apprentices may lose faith and in many cases become disillusioned.

97–49 Points: Novice

There are two types of novices. Some teachers are novices because they have just started teaching and are still learning the ropes. Other novices have actually been teaching for some time, but still approach teaching with a novice mindset. Good teaching for both types of novices requires careful thought and planning. They look for rules or recipes to guide their practice. Many times they are so overwhelmed that they rely on the objectives and activities provided by the curriculum guide without really understanding what they mean. Novices work very hard to get through the curriculum by focusing on coverage and task completion. They have a limited number of explanatory devices and depend on remediation to help students who are very far behind. Novices use assessments to evaluate student performance and often use the tests that come with the curriculum guide. If they do create a test, they typically do so after they have taught the unit. Their understanding of who their students are is based on generalizations and stereotypes and their expectations for students are based on their perceptions of what they believe students can do.

Because of these expectations, novices typically work very hard, doing the lion's share of the work in the classroom.

Give Yourself a Score for Each Principle

Now that you have given yourself an overall score, give yourself a score for each principle. To calculate your score, begin by totaling the number of points in each column of the scoring sheet. Then, divide that number by 7 for your average score. Record your average score for each principle. (For an example of a completed scoring sheet, see p. 217.)

1

Start Where Your Students Are

> All learners construct knowledge from an inner scaffolding of their individual and social experiences, emotions, will, aptitudes, beliefs, values, self-awareness, purpose, and more. In other words, if you are learning in a classroom, what you understand is determined by how you understand things, who you are, and what you already know as much as by what is covered, and how and by whom it is delivered.
>
> *Peter Senge*

I was teaching an on-level class of 11th grade students. The students who were quiet, polite, obedient, and respectful were my favorites, regardless of how they performed in the class. They were what I considered "good students."

Keisha, on the other hand, was not what I considered a good student. She was loud. Her work, when she turned it in, was sloppy. She came to class late and rarely had anything to contribute to the discussion. At first, I tried to believe in her. I encouraged her and told her "you can do it." I gave her extensions on her assignments and invited her to come in at lunch for extra help. I worked hard to believe in her and did my best to treat her as if she had great potential.

But, to be honest, I didn't see any potential in her and I was getting tired of trying. Every day in class was a battle. I'd ask her to take out her pencil and get to work and she'd cross her arms and stare out the window. Some days, I would push it, cajole or order her to do her work and the exchange would erupt into a battle. Many days things got so bad that I would end up sending her to the office. Other days, I have to admit, I just didn't feel like fighting. If she wanted to fail, I wasn't going to get in her way.

One day, in the midst of one of our battles, she yelled, "I hate you!" And, to be honest, I couldn't stand her either.

It had come to that.

I realize now that because I had difficulty handling Keisha, I looked at her in terms of her deficits rather than her strengths. She did not fit my image of a good student so I expected her to fail. More importantly, because I had difficulty reaching her, I blamed her. If I were really honest, I didn't like Keisha because she didn't swoon over my lessons. I had worked hard on those lessons and was working very hard to teach her what I thought was a valuable skill. After all the work I'd done, she sat there with her head on her desk. Surely there must be something wrong with her.

One day, I was complaining about Keisha to Cynthia, one of her other teachers. We both commiserated about her terrible attitude and how hard it was to get her to work. As we talked, I slowly began to realize that although we both had the same view of Keisha and the same challenges with Keisha, we had different results. Keisha did work in Cynthia's class. In fact, Keisha was currently earning a B.

"You know that child is brilliant don't you?" Cynthia commented.

"Yeah," I snorted. "She's so brilliant that she's failing my class."

Cynthia got serious. "I mean it Robyn. That girl is brilliant."

I looked at Cynthia incredulously. "Brilliant? Are you kidding me? She doesn't do work in class. She just sits there during discussions. And the papers she turns in are full of grammatical errors." I was starting to get upset.

"None of that has anything to do with how smart she is," Cynthia replied calmly.

"Of course it does," I began. Then I stopped. Cynthia's words suddenly began to sink in.

"Have you ever had a conversation with her?" Cynthia asked.

I shook my head. "How can I have a conversation with her? She is completely unreasonable. She fights me at every turn."

"Yes. That child can be pretty stubborn and ornery," Cynthia said, smiling warmly. "But you really should try to get to know her."

"Cynthia, I have 130 students. I don't have weeks to spend trying to get to know each one personally. Besides, how does learning her favorite TV show or her favorite band help me get her to do her work?"

"You don't have to take her out to lunch or invite her home for the weekend, you know." Cynthia looked at me, amused. "I am just saying that you need to look beyond how mean or inappropriate or stubborn she is being and pay attention to who she is and what she wants. Keisha acts out because she doesn't have a more appropriate way of getting what she wants. But if you can get beyond that, you will find that she writes really good poetry, and she can out-argue anyone. She has a really good mind. You just have to show her how to use her powers for good instead of evil." Cynthia winked at me.

I thought about what Cynthia said. We had the same student but we saw her in entirely different ways. How was Cynthia able to see beyond Keisha's attitude and uncover her other abilities? And, more important, if Keisha really was as brilliant as Cynthia said she was, why wasn't I seeing it in my classroom?

Common Practice

We all at some time or another have come across a student or two whom we felt we just couldn't reach. In some cases, we've even come up against an entire classroom of students who seemed unmotivated and incapable of learning no matter how hard we tried. We struggled all year to find a way in.

Many textbooks and teacher preparation programs argue that the way in is to get to know your students. They suggest that you do a battery of pre-assessments and getting-to-know-you exercises. While these can be useful, they are not sufficient. Students have their own experiences and therefore present their attributes and abilities in different ways. If you only pre-assess and play getting-to-know-you games, you may be ignoring other powerful components of who they are.

Some teachers recognize that getting-to-know you exercises are not enough to really understand who students are. They realize that students'

cultural backgrounds are also powerful influences on how they learn. Many school systems understand at least superficially the power of culture and therefore require their teachers to take a class on cultural competence. But these classes often amount to little more than heroes, holidays, and "foods of the world" classes where teachers spend six weeks eating their way to an understanding of culture.

The problem with this approach is that it treats culture as if it were a monolithic thing that can be reduced to a list of characteristics and preferences. And, it assumes that our students have only one culture when, in fact, our students—all of us for that matter—are members of several cultures. There is their racial or ethnic culture (e.g. Latino, African-American, Asian), their regional culture (e.g. Southerner, urban, Californian, Midwesterner), their religious culture (e.g. Muslim, Christian, Hindu, Jewish), their social culture (e.g. athlete, Goth, egghead, theater kid), and their generational culture. If we spent time trying to understand all the cultural influences that make our students who they are, we would never have time to teach. And, even if we went through the trouble of learning all of the preferences and characteristics of our students' various cultures, how do we use that knowledge to motivate our students or help them learn?

It is undeniable that students' choices and learning preferences are influenced by their various cultures. But, rather than focus on learning superficial information about students or even learning the common attributes of their cultures, it is more important to understand the concept of intellectual and cultural currency, how it is acquired, negotiated, and traded in the classroom, and how you can marshal its power to help students learn.

The Principle

Knowing your students means more than knowing their demographics or test scores. It means recognizing what currency they have and value and then using that currency to help them acquire the capital of the classroom.

The capital of our classrooms is the knowledge and skills that lead to high achievement. It includes both *content knowledge*, like the concept of whole numbers and the effect of the Magna Carta on modern government, and *procedural knowledge*, like how to add and divide whole numbers or how to write a five-paragraph essay. When students acquire classroom capital, they

do well on achievement tests and make good grades. Classroom capital is what we typically associate with intelligence.

However, simply knowing the facts does not ensure success for most students. Several researchers (Polanyi, 1958/1974; Sternberg et al., 2000) suggest that academic success is not based solely on knowing the right answers: it is also based on an entire subset of "tacit knowledge" or "soft skills" that make acquiring the right answers easier. In order to do well on a test, for instance, you need to know more than just the information being tested. You also need to know how to take notes, how to read the textbook, how to study effectively, how to distinguish what information is important, how to answer multiple choice questions, how to eliminate incorrect answers and make educated guesses when you do not know the answer, and how to pace yourself so that you can complete the test in the time allotted. You might need to know how to ask the teacher for help on the information you did not understand, how to identify what it is that you do not know, how to get the notes from another student if you are absent, or how to allot enough time to study.

These soft skills operate as a form of *currency* in the classroom. In fact, any behavior that students use to acquire the knowledge and skills important to your grade level or subject area functions as currency, and this currency is actively negotiated and traded in every classroom interaction. While these soft skills and behaviors are not often made explicit to students, they are crucial in acquiring the capital of the classroom.

We all have preferences for styles of behavior, communication, and relationships. We all have notions of what is worth knowing. These preferences are what we use to impart value to the currencies we use and accept in the classroom. If students behave in a way that we value—if they head their papers properly, for example, or come in for extra help, if they raise their hands before speaking and refrain from talking during the lecture—they are more likely to receive favorable treatment, extra help, high expectations, and access to opportunities. As a result, they are more likely to learn. If students do not have these currencies, they have a much more difficult time acquiring the capital of the classroom.

We all have preferred forms of currency. Suppose you advertise that your house is for sale and I come take a look. I like what I see and declare that I want to buy your house. "Great," you say as you take out the paperwork and prepare to draw up a contract. Meanwhile, I dig into my pocket, pull out a

few shiny beads, some seashells, and a couple of wood carvings, place them on the table, and ask for the keys. How would you react?

What if I told you that in my culture, shiny beads were of tremendous value, the wood carvings were of a sacred nature, and the seashells were our accepted currency? Would you then accept them as a form of payment for your house?

The same type of exchange happens in classrooms each day. We have a capital (knowledge and skills) that we are trying to help our students acquire. Our students have various currencies (knowledge and behaviors) that they bring with them and attempt to use in order to acquire the capital of the classroom. Often however, there is a disconnection between the currency we value and the currency they are spending. Or our students do carry the currency recognized in the classroom but refuse to spend it because they do not find the classroom capital particularly valuable.

This disconnect is to be expected. Just by virtue of being adults, we have preferences for behavior and notions of what is valuable that differ from our students' sense of what is valuable. The trouble comes when we see this disconnect as a sign that our students are somehow deficient because they have currencies and values that are different than our own.

Just because students come to us with alternate forms of intellectual and cultural currency does not mean that they are less capable. It means that they have skills that may be unrecognized in the classroom context and potential that has yet to be developed. Or it might mean that they do not yet see enough value in classroom capital to expend the effort it takes to acquire it. Rather than see them as deficient, we should reshape our approach to instruction so that we capitalize on students' currencies rather than overriding or negating them.

Practicing the Principle

Ultimately, if we want students to be successful in our courses, we have to help them use their currencies to acquire classroom capital. In order to do so, we must first figure out what currencies we are accepting and what currencies our students are spending. Next, we have to determine whether there is a disconnection between the two. If there is, we need to figure out why that disconnection is occurring. There are two possible explanations. One, the

disconnection is occurring because students do not have the currencies we are accepting in the classroom. If that is the case, we need to help students acquire this currency. The other explanation is that students have the currency but refuse to spend it. In this case, we have to help them value the capital of the classroom.

Understand What Currencies You Are Accepting in the Classroom

Most classroom problems have at their root a disconnection between the teacher's preferred form of currency and the students'. Thus, while it is important to understand and respect the students' currencies, you must also understand and respect your own.

As much as we may try, we cannot escape who we are. We have values we bring into the classroom. These values will come across in subtle, and not-so subtle ways, so it is important that you are observant of your students and of yourself. Ask yourself how your values affect the way that you see your students and your role in their lives. Examine how the way you teach is affected by the way you were taught, and develop an awareness of how all of this plays out in the way that you understand your students and the lens through which you see every interaction that takes place in the classroom.

Beliefs and values drive behavior. They have a direct consequence on what we teach, how we teach, and why we teach. Yet, how often do we take time to examine our own beliefs and values? If we are going to help students use their currencies to acquire the capital of the classroom, we must first examine our own beliefs about what is acceptable in the classroom, about what makes a "good student," and about what constitutes learning.

Try This

- Divide a piece of paper into two columns. On one side, list the behaviors and characteristics of your ideal student. What would that student look like? What would that student know? What would that student do? (For example your ideal student might be one who is neatly dressed, comes to class on time, raises his or her hand before speaking, completes the homework nightly, participates actively during classroom discussions, and knows how to read critically.) This list will help you see what currencies you value.

Next, place an asterisk next to each characteristic that is necessary in order to master the objectives of your course or grade level. On the other side, list the characteristics, behaviors, and values of the students in your class. What do your students look like? How do they behave? What do they value? Compare your lists to see what currencies your students are spending and what currencies you value. Where are the similarities? Where is the disconnection? How many of the starred characteristics do your students have already? What can you do to help your students acquire the starred characteristics they don't have already?

- Pay attention to the metaphors you use about teaching. Do you see teaching as gardening, or coaching, or shaping students, or leading students on a journey? These metaphors provide powerful clues about your beliefs about students. If you see teaching as gardening, you see your students as plants to be tended. If you see teaching as coaching, you see your students as players on a team. In one scenario, students are passive and must be coaxed and nurtured in order to grow. In the other scenario, students are more active and need to be guided in order to reach peak performance. By paying attention to our metaphors about teaching, we will be more aware of our own beliefs and values and how they influence the way we see our role as teachers, and the way that we currently approach instruction.
- Now ask your students to create similes for learning by having them complete the following sentence: "Learning is like. . . ." Examine your students' metaphors and see how they are similar to and different from your own.

Understand What Currencies Your Students Are Currently Spending

Not only do we need to understand what currencies we value, we need to pay attention to what currencies our students bring with them. Their academic performance will help paint part of the picture, but in order to discover what soft skills students possess and whether or not they are using them effectively, we need to look beyond test scores and grades.

William Sedlacek's (2004) research offers us a useful lens through which we can start to recognize and capitalize on the various currencies students bring to the classroom. In his book *Beyond the Big Test,* he argues that students have noncognitive characteristics and skills that are more predictive of

academic success than the traditional measures of intelligence. Standardized tests and prior grades offer only a limited view of a student's potential.



Yes, but... can't I just use what I know about students' backgrounds and cultures already?

The danger in this approach is that it may result in subtle forms of stereotyping. Although there are cultural guidelines that exist that might help you develop an entry point into students' lives, you cannot rely on these stereotypes in order to see your students. Instead, observe your students. Listen, really listen, to them and try to understand what they bring to the table. We tend to think that we must immediately have the answers. When our students exhibit certain behaviors in the classroom, we immediately jump to an explanation of the behaviors. This principle asks that you take a step back and not jump to a conclusion. Rather, take your time to look for ways to help students capitalize on their abilities and potential in order to acquire the capital of the classroom.

Dr. Sedlacek found eight noncognitive characteristics that are predictive of academic success in college.

- *Positive self-concept*: The confidence that leads to the determination to succeed.
- *Realistic self-appraisal*: The ability to accurately assess your own strengths and weaknesses and to use this assessment to further your own development.
- *Successful navigation of the system*: Knowing how to access resources and how to use the system to help you achieve your goals.
- *Preference for long-term goals*: Knowing how to set and achieve long-term goals, delay gratification, and persevere in spite of obstacles.
- *Availability of a strong support person:* Finding someone to confer advice, particularly in times of crisis.
- *Leadership experience:* Having the ability to organize and influence others.
- *Community involvement*: Being involved in a community.

- *Knowledge acquired in and about a field*: Having the explicit and implicit knowledge of a particular field of study.

These eight variables offer us a way to see and value students' currencies that may otherwise go unrecognized in the classroom.

Recognizing the array of strengths students bring with them to the classroom gives you a starting point from which you can help students acquire classroom capital. If you see a student with a positive self-concept, for example, you can help her use her confidence to persevere on more difficult tasks. If you have a student who demonstrates a realistic appraisal of his strengths and weaknesses, you can show him how to use this appraisal to set attainable learning goals and be more strategic about how he studies. If a student has leadership experience, you can show that student how to use it to form study groups or to take on more responsibility during classroom routines.

When you actively look for evidence of alternate currencies, you can show students how to use the currencies they have to acquire the capital of the classroom. And, by showing them that you recognize their strengths, you can challenge them to reach beyond their natural limits.

Try This

- Use the eight noncognitive characteristics to discover what currencies your students already bring with them. Discuss these characteristics with students and help them see what characteristics they have already and how these characteristics will help them do well in your class. Look for ways to help students develop the characteristics in which they are not strong. For instance, if students need help in leadership, find informal leadership opportunities for them within the classroom, such as facilitating a class discussion, being in charge of caring for the class pet, or being the group leader during a small group project.
- Use parent conferences to learn more about your students. Ask parents to talk about their students' strengths, talents, likes, and dislikes and use this information to provide students with opportunities to use their talents and preferences to acquire the capital of the classroom. If you cannot accomplish this during parent conferences, send home a questionnaire for parents to complete.

- Create opportunities for students to share their own stories as a way of not only learning more about students but also making the curriculum more relevant. When giving an example in class, ask students if they have ever had a similar experience. When teaching a new concept, ask students to explain how that concept might play out in their own communities or might be relevant to their own lives. Have informal conversations with students in and outside of the classroom where you ask students to share their stories.
- Use the "artifact bag" exercise suggested by Jonathan Saphier and Robert Gower (1997) as a way of learning more about your students and creating a classroom culture that welcomes and values students' various currencies. Have students bring in an unlabeled shopping bag containing five items that represent something about their lives or their interests. At various intervals during the first month of the year, have a student select a bag at random and display the items one at a time. After the fifth item is shown, ask the class to make a collective guess as to its owner. Then, ask the bag's owner to explain the significance of each item.
- Use information, illustrations, and examples from students' cultures when teaching the principles, theories, and concepts of your course or discipline.

Help Students Acquire Additional Currencies

In addition to recognizing the different forms of currencies students bring to the classroom, we also need to identify what currencies students don't have. From there, we can help students acquire additional currencies that will help them be more successful in the classroom.

When I first was introduced to Dr. Sedlacek's (2004) research, I lamented that my students didn't have many of the noncognitive skills they needed to be successful. Many of them didn't have strong support systems available to them. Most of them had no preference for long-term goals and would easily give up. Few if any of my students had a realistic understanding of their strengths or where they needed to grow. If these eight skills were necessary for student success, I thought, then my kids were in trouble.

So, I decided that if these skills were crucial, and if my students didn't come to me with them already, it was my job to help them develop these skills during the semester they were with me. I looked at how my classroom was currently structured and decided to radically overhaul what I was doing so

that my students could not only master the objectives of my course but also develop the skills they needed to be successful in my class and in school in general.

I began by forming student study groups as a way of giving students a strong support system inside the classroom. These study groups met once a week outside of class (either in person during the school day or after school, or virtually in online chat rooms I set up for just that purpose). If a student was absent from class, he didn't check with me to see what work they missed, he checked with his study groups. If a student struggled with a concept, she went to her study group for help.

I also restructured my assignments to make many of them long-term assignments as a way of helping students learn to successfully set and work toward long-term goals. At first, I broke the assignments into smaller parts and set up several checkpoints along the way to help students stick with the project to the end. As the year progressed, I had students break the long-term assignments down and set up checkpoints for themselves so that by the end of the year, I gave the assignment and the students did the work of breaking it down into manageable parts. In that way, I helped students learn how to set and achieve long-term goals.

To help students develop a more realistic understanding of their own strengths and areas for growth, I adjusted the way that I provided them with feedback (for more on this, see Chapter 5) and gave them grade tracking sheets so that they could track their progress toward mastery of the objectives. I met with students regularly to discuss their progress toward the learning targets and to help them figure out what adjustments they needed to make in order to reach those learning targets.

It took some work but by the end of the semester, my students had developed many of the noncognitive skills they needed. And, because these skills were not bound by my subject matter, they could transfer these skills to other courses and subjects.

Try This

- Find out what necessary currencies your students are missing (use the list of eight noncognitive skills as a starting point). Then look for ways that you can help students acquire these currencies while doing the normal work of your classroom.

- Explicitly teach the academic vocabulary of your discipline or grade level as a way of helping students better access the curriculum.
- Set up student study groups as a way of helping students learn from each other and develop strong support systems within your class. For more information on how to set up study groups, visit my Web site at www.masterteachermindset.com.
- Project students into examples as a way of helping them relate to things with which they have had no direct experience. Use phrases like "Suppose you were…" "Imagine yourself…" or "What would you do if…?"
- Help students personalize learning goals by asking them to take the learning objective and identify what specific knowledge implied in the learning goal is of particular interest to them.
- When introducing new material with which students are completely unfamiliar, spend some time early on giving background information and creating context so that students can acquire some of the unstated or implied understandings of the topic.

Show Students How to Carry and Spend Multiple Currencies

It is important however, to be careful that in the process of helping students acquire other currencies you don't cheapen the currencies they already have. How do you avoid imposing your idea of what is valuable on the students and thus devaluing the currency that they bring to the classroom?

You teach students to carry more than one type of currency. Students naturally do this anyway. As Judith Rich Harris (1998) points out in her book *The Nurture Assumption*, children often act differently at school than they do at home. In fact, they are experts at adapting their behavior to their contexts.

When I first became an English teacher, I was told that one of my biggest challenges would be to help my students abandon their slang and learn to use "proper English." I went about my task with almost religious zeal, correcting every "ain't" and "don't got" with a holy conviction. I insisted that my students use "the King's English."

Of course, when I wasn't teaching, I occasionally slipped in an "ain't" or two. In fact, when I talked with my friends, I rarely spoke the "proper" English I was imposing on my students.

One day I was in my office during a lunch period working with a student. The phone on my desk rang and I excused myself for a moment to answer

the call. It was my sister and we were trying to make arrangements for getting together later that day. I chatted with her for a few moments and hung up the phone. "I'm sorry about that," I apologized as I returned to my student. He just sat there and grinned at me.

"What?" I asked, as I eyed him suspiciously.

"I knew it!" he exclaimed and began to laugh. "I knew you didn't talk like that when you weren't in the classroom."

And he was right. I didn't. Among my friends and in my neighborhood, I used a very different dialect than when I was in front of my students, or on a job interview, or interacting with my supervisors, or conducting a workshop. If I didn't use the same dialect all the time, why was I demanding that my kids did?



Yes, but... doesn't this just make it OK for students to use nonstandard grammar? And, doesn't that just handicap them from doing well on the tests?

Am I excusing nonstandard English and saying that students should be allowed to only trade in their preferred form of currency? Of course not. Doing so would handicap students by limiting their opportunities in education and their mobility in society. But just because standard English is the language of the tests does not mean it is the language of students' lives. It is not an either/or situation. Rather, it is a matter of giving students more options by giving them multiple currencies and showing students how to use the most appropriate currency in each situation they face.

It was then that I began to introduce to my students the concept of bidialectalism. We talked about how English had several different dialects. I asked my students how they spoke at home. Some used a patois of English and their country's language. Others used a variation of slang. Still others didn't speak English at home at all. I asked them what would happen if they went into their neighborhoods and spoke "proper." They laughed.

"I might get robbed," shouted one.

"Man, no one would know what I was talking about," offered another.

We laughed at the idea of walking up to a group of guys hanging out on the corner and saying, "Pardon me, but do you have any Grey Poupon?"

"What about clothes?" I asked. "Can I go into your neighborhood dressed like this?" I indicated my pants suit and heels.

"Heck no!" laughed one of my students. "Not unless you want to be mugged."

"They would think you were a social worker or a probation officer," another one exclaimed.

"You'd be fine in my neighborhood," a third offered. "Everyone dresses like that."

"Not in my neighborhood," a fourth explained. "Women don't wear pants."

"It's the same way in the business world," I explained to my students. "If you don't dress the part and talk the part, you lose your street cred, regardless of the neighborhood you are in, whether that is Southeast or Wall Street."

"How many of you want to go to college and be a business person?" I asked. They all raised their hands. "How many of you want to be rich?" Again, all hands were raised. "Then you are going to have to learn the language of the dominant culture."

Now they were interested. They weren't being told that the way they spoke was "wrong" or to abandon their own culture; they were being given the secrets to a different culture, a culture to which they previously had been denied entry. The message wasn't that by acquiring the capital of the dominant culture, they would somehow become "better" or "smarter." It just meant that they would become more mobile. They would now be able to move freely between cultures.

How empowering is it for students to now be able to spend several types of currency and to know how to determine which currency works in which economy? How much more empowering is it for kids if they feel comfortable moving between and among cultures? And how many more options will they have as a result?

As teachers, we act as navigators of the unfamiliar social and cultural terrains. Our job is to help students acquire multiple forms of currency so that no matter what culture they enter, they have the knowledge and skills they need to move freely in that culture. Rather than try to erase your students' cultures and get them to conform to the dominate culture, look for ways to

help them use their culture as an entry point into the dominant culture. Look for ways to help them become bicultural and to "code switch." Look for ways to value what they bring to the table and yet show them how they can use different currencies to acquire other forms of capital.

Additionally, we need to learn how to code switch ourselves by looking for ways to adjust or even reshape the curriculum to capitalize on students' tacit knowledge, skills, and experiences rather than overriding or negating them. By connecting what we are teaching to students' lives, we not only help students access the curriculum more easily, we honor students' ways of knowing, understanding, and representing information and thus make it more likely that students will learn and retain what we are teaching and interact with the material at a more rigorous level.

Try This

- Early in the school year, ask students to identify at least three areas in which they consider themselves to be "experts." These areas do not have to have anything to do with your subject area or course. Compile a list of classroom experts. Use this list throughout the year to look for opportunities to use students' areas of expertise as a way of explaining a new concept, as an opportunity to invite students to use their expertise to add to whatever it is you are teaching, and as a way to use their knowledge as a launching point for new concepts or skills.
- Model for students the various thinking processes involved in completing a complex task. Explain to students how a task is completed and then ask students to come up with alternative ways to complete the same task. Encourage students to adapt the process to fit their individual learning styles, modalities, and needs.
- Structure your lessons so that students can view issues, events, and concepts through multiple perspectives. For instance, use resources outside the text and de-emphasize the notion that there is one right answer. Have students come up with several answers to a problem or read several perspectives on an issue or event. Or require students to present both the pro and the con arguments on a controversial issue.

Help Students Choose to Spend the Currency They Have

Sometimes students do not have the currencies they need to be successful in the classroom. Other times, students have these currencies but refuse to use them.

There are four factors that influence students' choices to spend their currency in your classroom. The first is whether they think it is important to do well on a particular task. The second is how enjoyable they think doing a particular task will be. The third is how well they think a particular task will help them achieve their goals. And the fourth is what they think doing a particular task might cost them. If students have the currencies you are looking for and refuse to spend them, you will need to address one or more of these factors.

At the root of all of these factors is a question of value. Students will not spend their own currencies if they do not believe that what they will get in exchange is valuable. They'll need to believe that what you are teaching is relevant or worth their effort. There are two ways that you can help students value classroom capital. The first way is to create a classroom community where students can have some ownership over the routines and protocols of the classroom. In this way they will become active participants in the classroom economy and will come to value its capital. The second way is to help students connect what they value to classroom capital. Both ways will be discussed in more detail in the next two sections.

Try This

- Have students come up with their own ways of demonstrating mastery. For instance, after a lesson on scatter plots, have students develop their own scatter plots using something that interests them. One student could create a scatter plot of the batting averages of her favorite baseball players, while another student could make a scatter plot of the various characteristics of his favorite bands.
- Allow students frequent opportunities to discuss among themselves what ideas mean and how they can be applied. This helps students express ideas in their own words and relate what they are learning to what they have learned already.

- Ask students to explain to the class how they arrived at a solution to a problem. Show students that there are multiple ways to solve a problem and help them find a way that works best for them.
- Help students understand how they learn best. Give them an assessment that helps them discover their multiple intelligences or preferred learning modality. Then show them how to use this information to predict the difficulty of assignments that do not match their learning style or preferred modality, how to seek help, and how to adapt their studying, note taking, and even the learning task itself to better meet their learning needs.
- Actively listen to students and demonstrate interest in their lives beyond school. Point out the connection or ask students to connect what they are learning in class to their experiences outside of class.
- In order to find the "hook" for students, look for ways to demonstrate how what students are learning is similar to what they have already learned in the course or to their own experiences. You can also encourage students to create their own hooks by having them create analogies using new concepts and familiar concepts outside of your subject area (e.g. how is the cell like a factory? How is the nuclear arms race like a game of poker?). To make this process a little more concrete, bring a box of common random objects such as an old shoe, a broken toy, a roll of duct tape, an empty soda can, and so forth. Have students randomly select an item from the box and then work in groups to figure out how the new concept you are teaching is like that item (e.g. foreshadowing is like a map because it tells you where you are headed before you get there).

Help Students Value Classroom Capital by Creating a Classroom Community

Walk into Dannette's classroom and it is like walking into another world. The bulletin boards are covered with quotes from everyone from Led Zeppelin to Socrates. There is a picture of John Belushi during his *Animal House* days hanging next to a picture of Audrey Hepburn. Students' artwork and posters from home hang on the walls. There is even a corner of cubbies where students keep their class notes and study materials. In the front of the classroom there is a gong and students walk up to it at seemingly random times and give it a good whack. The class looks up, smiles, and then gets back to work.

During class discussions, students push the desks aside to a back corner and plop down onto bean bag chairs in the center of the room.

One day I walked by her classroom and could hear the students chanting "Eat it! Eat it!" Curious, I stepped in. There, in the middle of the classroom, five students were dangling chocolate covered crickets above their mouths. Surrounding them were other students wearing buttons that declared "I ate a bug." As each student swallowed, the rest of the class erupted in wild cheers and Dannette pinned a button on their shirts.

Why were students in an AP World History class eating bugs? It certainly wasn't part of the curriculum and it seemed almost disruptive to the rest of the class. In fact, it was the kind of thing more appropriate in a frat house than in a high school classroom. Why was she wasting valuable instructional time on something that had no relation to the curriculum and did nothing to prepare students for the test at the end of the year?

"We had just finished studying world cultures and I told my students that in some cultures, they eat bugs. They were so grossed out that I got the idea to bring in some chocolate covered ants and crickets," Dannette explained. "I wanted my students to do something that they didn't think they could do. I wanted them to know that if they could eat a bug, then they could take and pass an AP test."

Dannette created a classroom community. They were not 32 different students any more; they were all a part of the "I Ate a Bug Club."

"We bonded," Dannette said. "I looked at the Marine Corps and I looked at summer camp and I looked at sports teams and I saw how they would take a group of people from different backgrounds with different abilities and make them into a team. Together, that team would do things that seemed impossible to the individual person. These kids have never taken an AP test before and it seems impossible to them at the beginning. But, when they become a team, they encourage each other, they pull for each other. Suddenly, the test doesn't seem as impossible for these kids."

Dannette's classroom is not all fun and games. She doesn't eat bugs one day and play capture the flag the next, nor does she believe that eating a bug alone will help her students pass the AP World History exam at the end of the year. She isn't arguing that eating a bug will somehow magically transform her students into history scholars.

But she is making a powerful argument for using what was important to students to help them acquire what was important to her and to her course. She recognized the huge influence peers had on students at that age, so she used it to help motivate students to meet the rigor of her course. She also changed the context of the classroom. Traditionally, classrooms are set up for individualization. Each student is responsible for his own behavior and learning. They are, in a sense, on their own. But, what would happen, she asked, if collectivism trumped individualism? Challenges that once seemed daunting or even uninteresting when faced alone, suddenly seem possible and desirable when faced as a part of a team.

Dannette used those currencies to help her students meet the challenge of a very rigorous course. She didn't waste time trying to motivate her students to do well. Instead, she created a classroom culture around trying hard and working together to accomplish goals. She then let the students see for themselves that they were capable of doing far more than they thought they were. By starting with currencies that her students valued, she successfully helped students learn to value the classroom capital and work hard to obtain it. As a result, they didn't need her to motivate them; they were motivated themselves because they valued what they were learning.



Yes, but... I don't have time for these kinds of fluffy activities. I have to get through my curriculum.

We often ignore team-building activities because we feel that they detract from our curriculum. But, when used judiciously, these activities can help our students find an entry point to what we are trying to teach them. The key is to make sure that you select these activities with an end in mind, rather than doing them for doing's sake. Use these activities to help you reach a particular curricular goal and they will go a long way toward helping your students buy into what you are trying to teach them and into your class in general.

Try This

- What are the implicit rules of engagement currently in your classroom? I am not talking here of the rules for how students behave that are typically posted on the wall at the beginning of the school year. I am referring to those tacit rules for how discourse takes place in the classroom or those unstated protocols for how things get done. Ask students to identify these "rules of engagement" and discuss ways to make these rules more useful for them. Give students the opportunity to suggest more efficient protocols and procedures and, together, decide how classroom business will be conducted.
- Create interdependence in your classroom by teaching students to use each other as resources. This can be accomplished by reciprocal teaching, jigsaws, study groups, online discussion boards, subject-specific chat rooms, cooperative learning activities, and seeding (teaching some students a skill and then having that small group of students teach the rest of the class).
- Include team-building activities in your curriculum. While these activities are often seen as "fluffy" and unrelated to the curriculum, they actually help create a classroom community that makes students more efficient and interdependent. Team building can also motivate students and help them persevere in the face of difficulty because it creates a sense of "we're all in this together."
- Build in opportunities for students to have some influence or control in what goes on in the classroom. Give students choices about how to complete assignments that best fit their own learning styles, interests, and needs.
- To find ways to help students make connections between the curriculum and their lives, use the following questions suggested by Stephen L. Yelon (1996, pp. 16–17):
    - How will students use the topic in their worlds?
    - How will the topic help students explain their own experiences?
    - How will the topic contribute to or deepen students' current interests?
    - How can the topic help students fulfill their aspirations?
    - How can the topic help alleviate students' fears and concerns?
    - What will students gain if they learn this topic or lose if they do not?
    - What will happen if students use this new skill or knowledge well and what will happen if they do not?

Reward Students in Their Own Currency to Help Them Value Classroom Capital

One of the biggest mistakes we make as teachers is that we assume that our students value classroom capital. As a result, we try to motivate students by rewarding them with things they don't value. Many of us think that the good grade should be enough of a motivation for doing the work. But, for many of our students who have not bought into the economy of our classrooms, good grades mean very little. If we want to motivate students, we have to reward them with currencies they value. Take my friend Cynthia, for example.

One day, I dropped by her classroom to work on a presentation we were giving together at an upcoming conference. Although it was also Cynthia's planning period, she had a handful of students in her classroom making up a test. Her teaching assistant, Ms. Bledsoe, monitored the students while we worked at a table in the back of the classroom.

It wasn't long before our work was interrupted by Ms. Bledsoe's exasperated sigh. "Jesse, I have told you three times already to get to work. Take out your pencil and finish this test."

"I'm finished." Jesse slumped in his seat and put his pencil on the desk.

"You are not finished, Jesse. You still have two pages to go. Now get to work," Ms. Bledsoe admonished.

Jesse threw the test on the floor and got up.

"Excuse me," Cynthia whispered, never taking her eyes off of Jesse. "I'll be right back."

She put a smile on her face and went over to Jesse. "Boy, sit your little self down," she drawled playfully.

Jesse didn't smile, but he did reluctantly sit back in his seat. "Miss Gill, I don't want to do this test. It's boring." He crossed his arms.

Cynthia leaned over Jesse's desk and whispered something to him. He looked up at her quizzically, and she looked him directly in the eye and smiled.

Jesse reached for the test. "I don't have a pencil."

"I've got one right here." Cynthia reached in her pocket and handed Jesse a pencil. "Now hurry up. You only have about 20 minutes."

Jesse got to work.

When Cynthia returned to the table, I whispered, "You're amazing. What on earth did you say to him?"

"Who, Jesse? Chile, I just told him that if he finished his test, I'd make him a peanut butter and jelly sandwich."

I laughed aloud and Cynthia smiled enigmatically. "Don't knock it, honey. It works."

We didn't hear a peep from Jesse for the next 20 minutes. He hunched over his desk and completed his test. When time was up, Jesse brought his test over to Cynthia.

"Did you do your best?" she asked him sternly.

"Yes, Ms. Gill. I even went back over it to check my work."

Cynthia flipped through the test and checked each page. Then, she went to her desk and took out a loaf of bread, a vat of generic peanut butter, a jar of store-brand jelly, and a plastic knife. She made what was perhaps the ugliest peanut butter and jelly sandwich I had ever seen, but to Jesse, it was a work of art. When she finished the sandwich, she handed it to Jesse who cradled it lovingly in the palms of his hands, grinning.

"Thank you, Ms. Gill," he said reverently and carefully made his way to the door. As he left the classroom, we could hear him yell, "Hey Tito, DeMarco. Look what Ms. Gill made me!"

I asked Cynthia once about those peanut butter and jelly sandwiches. Why were these kids willing to work so hard for something that seemed so trivial? She used cheap bread and cheaper peanut butter and jelly. The sandwiches she made were positively ugly. What was it about these sandwiches that could get kids motivated when nothing else would? After all, wasn't it just a bribe—the high school equivalent of giving students candy if they finished their work?

"You're focusing on the wrong thing. It's not the sandwich itself that matters. It's the fact that *I* make it for them. Cooking for someone else is one of the most nurturing acts a person can do. These kids don't get enough nurturing at home. Jesse's mother works two jobs. She doesn't have time to make him a sandwich. So, when I make him a sandwich, he feels nurtured and loved. Jesse has to know that I care about him before he will do anything else. When he feels like I care about him, he will do the work."

Cynthia understood the idea of paying kids in their currency. Rather than impose her value system on Jesse, she recognized what currency he was taking and used what worked in his economy.



Yes, but... surely you don't expect me to start making my kids sandwiches!

I am no Cynthia. Although I love to tell the peanut butter sandwich story, I did not go out and immediately buy a loaf of bread and start making sandwiches myself. I am just not that way. But, I got her point. We did, after all, have the same students. My students too needed a certain amount of nurturing in order to be motivated. Most students do.

But, I am not the same kind of nurturer as Cynthia is. If I had gone out and started making sandwiches, I would have been little more than a poor imitation of Cynthia and my students would have seen right through me. I would have come off as false and insincere. No. I had to find a way to nurture my kids that was authentic and that fit with who I was.

Often when we read inspiring stories of great teachers or see a feel-good teacher movie, we want to rush out and do what they do. We grab a bullhorn like Joe Clark, or take them to an amusement park like Michelle Pfeifer did in *Dangerous Minds.* We keep them after class for hours like Jaime Escalante. But we fail to consider whether our students are like those in the movies, or whether we are like those teachers. We want to be like them, sure, but we have to take into account our own personalities. What made Joe Clark or Jaime Escalante so successful was that they found a way to reach their students by being who they were.

Kids are smart. They can see through us. They know when we are being sincere and when we are being "fake." While they may cut us a little slack in the beginning, they will soon begin to rebel against our teacher act if we are not sincere. If we don't believe it, why should they?

So, if making sandwiches is not your thing, figure out what is and do that.

Sure, Jesse should have been motivated by the intrinsic reward of doing well. But, in Jesse's economy, the intrinsic rewards were not nearly as important as that peanut butter and jelly sandwich.

When you start where your students are, you don't think in terms of "should." If you want to motivate students to learn, first find out what currency they are spending (or the currency they value) and pay them in that currency. From there, you can teach them how to find the reward in other things. For

many of our students, intrinsic motivation has to be developed. It comes only after they have experienced the pleasure of doing well and know the rewards of success. At the beginning, many of our students haven't experienced consistent academic success and are not convinced that it will bring any pleasure. In fact, academic success has been a source of pain for them because it has been heretofore an unachievable goal. This is why it is so important to start with what motivates them and then as they experience more success, help them transfer or become motivated by that success.

For some students, it will take grades or points or extra credit. For other students, it will take the promise of some more tangible reward like extra time on the playground or a fieldtrip.

For Jesse, it took a peanut butter and jelly sandwich.

Try This

Think about the rewards you currently have in place in your classroom. Are they consistent with what your students value? If not, think about how you can make them more consistent with your students' values. Pay attention to what your students value (or even ask them!). Then, think of how you can reward them in ways that they value.

The Principle in Action

One day, I was doing a formal observation in Chris's 7th grade math class as she was teaching students how to solve quadratic equations.

"How do we solve for x in this equation?" she asked, as she wrote an equation on the overhead projector.

Several students raised their hands. Chris waited a few beats and then called on one student. As the student talked, Chris wrote on the overhead. When the student finished, Chris asked, "Why did you choose to solve the equation the way that you did?"

The student paused for a second and considered his answer. Then he began to explain his reasoning to the class. When he finished, Chris asked the class, "Did anyone use a different way to solve this equation?"

A few students raised their hands. Chris called on a student who explained another way to solve the equation. When the student finished, Chris asked her, "Why did you choose to solve the equation that way?" Again, the student

explained her reasoning. Then Chris asked the class, "Is there another way that you could solve this equation?"

This time, the students were less quick to raise their hands. Chris waited and let them think about her question for a moment. When after several moments no one raised a hand, Chris prompted, "Let's see, you've added, subtracted, multiplied…." Again, Chris waited. Suddenly one student raised his hand. Chris called on him. "You could divide the two sides by six," he offered.

Chris smiled. "Okay, tell me how that would help me solve this equation." The student talked her through the equation as the other students took copious notes. Chris put down the overhead marker for a moment. "We have at least three ways of solving a quadratic equation here," she announced as she pointed to the overhead. She summarized each of the three methods. Then she asked, "Why would I use method one?" The students offered a few answers. Chris nodded her head, and then paused. "Well, are there situations where method two might work better?" The students thought for a moment and then offered a few scenarios. Chris listened and probed with more questions until the students had suggested several different situations where method two might work better than method one. "What about method three?" Again, the students explored the different scenarios.

When the students finished, Chris began to hand out a worksheet. "Now that we have learned how to solve quadratic equations, I want you to practice. This worksheet contains 12 problems. I want you to experiment with the three different methods that we just examined and find which method works best for you."

Chris didn't just teach her students one way to do things. She acknowledged that there were several different ways to solve the problem and allowed students to select the method that worked best for them. She helped them examine each method so that they understood the advantages and disadvantages that each offered and then let them decide based on their own preferences. As a result, Chris honored the currencies and preferences of her students and at the same time, helped them acquire new currencies that they could use to be successful in her classroom.

Getting Started

Help your students use the currencies they bring with them to help them acquire the capital of the classroom.

1. Examine your own currencies. Look to see which currencies you value in the classroom.
2. Pay attention to your students to discover which currencies they value and what currencies they are spending.
3. Look for any disconnect between the currencies you are accepting in the classroom and those the students are spending. Also look for ways that you may be spending currencies that the students do not value.
4. If the disconnection is because the students do not have classroom currency, help students use the currency they have to acquire classroom currency by showing them how their currencies are valuable, helping them acquire additional currencies, and learning how to code switch.
5. If students have classroom currency but refuse to spend it, create a shared classroom community and reward them in currency they value.

Is great teaching a gift that only a few of us are born with, or is it a skill that can be learned?

In *Never Work Harder Than Your Students*, Robyn Jackson makes a radical assertion: Any teacher can become a master teacher by developing a master teacher mindset. The master teacher mindset can be achieved by rigorously applying seven principles to your teaching until they become your automatic response to students in the classroom. The more you practice these principles, the more you begin to think like a master teacher. The seven principles are

1. Start where your students are.
2. Know where your students are going.
3. Expect to get your students to their goal.
4. Support your students along the way.
5. Use feedback to help you and your students get better.
6. Focus on quality rather than quantity.
7. Never work harder than your students.

Using these seven principles, Jackson shows you how to become a master teacher no matter where you are in your practice. Each chapter provides a detailed explanation of one of the mastery principles, the steps you need to take to apply them to your own practice, and suggestions for how you can begin practicing the principle in your classroom right away. Jackson offers stories from her own teaching practice as well as from other teachers she has helped to show you how each principle works. Teaching is a hard job, but using Jackson's principles will help you and your students reap the rich rewards of that hard work.

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For the children—

May their backpacks be light and their learning joyful.

Rethinking HOMEWORK

Best Practices That Support Diverse Needs

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1

The Cult(ure) of Homework

Homework is a long-standing education tradition that, until recently, has seldom been questioned. The concept of homework has become so ingrained in U.S. culture that the word *homework* is part of the common vernacular, as exemplified by statements such as these: "Do your homework before taking a trip," "It's obvious they didn't do their homework before they presented their proposal," or "The marriage counselor gave us homework to do." Homework began generations ago when schooling consisted primarily of reading, writing, and arithmetic, and rote learning dominated. Simple tasks of memorization and practice were easy for children to do at home, and the belief was that such mental exercise disciplined the mind. Homework has generally been viewed as a positive practice and accepted without question as part of the student routine. But over the years, homework in U.S. schools has evolved from the once simple tasks of memorizing math facts or writing spelling words to complex projects.

As the culture has changed, and as schools and families have changed, homework has become problematic for more and more students, parents, and teachers. The Internet and bookstores are crowded with books offering parents advice on how to get

children to do homework. Frequently, the advice for parents is to "remain positive," yet only a handful of books suggest that parents should have the right to question the amount of homework or the value of the task itself. Teachers, overwhelmed by an already glutted curriculum and pressures related to standardized tests, assign homework in an attempt to develop students' skills and to extend learning time. At the same time, they are left frustrated when the students who most need more time to learn seem the least likely to complete homework. Teachers are afraid not to give homework, for fear of being perceived as "easy."

With diversity among learners in our schools at levels that are higher than ever, many teachers continue to assign the same homework to all students in the class and continue to disproportionately fail students from lower-income households for not doing homework, in essence punishing them for lack of an adequate environment in which to do homework. At a time when demand for accountability has reached a new high in its intensity, research fails to prove that all that homework is worth all that trouble. (The research on homework is discussed in Chapter 3.)

Although many people remain staunchly in favor of homework, a growing number of teachers and parents alike are beginning to question the practice. These critics are reexamining the beliefs behind the practice, the wisdom of assigning hours of homework, the absurdly heavy backpack, and the failure that can result when some students don't complete homework. There's a growing suspicion that something is wrong with homework.

This more critical look at homework represents a movement away from the pro-homework attitudes that have been consistent over the last two decades (Kralovec & Buell, 2000). As a result, a discussion of homework stirs controversy as people debate both sides of the issue. But the arguments both for and against homework are not new, as indicated by a consistent swing of the pendulum over the last hundred years between pro-homework and anti-homework attitudes.

A Brief History of Homework

The history of homework and surrounding attitudes is relevant because the roots of homework dogma developed and became entrenched over the last 100 years. Attitudes toward homework have historically reflected societal trends and the prevailing educational philosophy of the time, and each swing of the pendulum is colored by unique historical events and sentiments that drove the movement for or against homework. Yet the historical arguments for and against homework are familiar. They bear a striking similarity to the arguments waged in today's debate over homework.

At the end of the 19th century, attendance in the primary grades 1 through 4 was irregular for many students, and most classrooms were multiage. Teachers rarely gave homework to primary students (Gill & Schlossman, 2004). By the 5th grade, many students left school for work; fewer continued to high school (Kralovec & Buell, 2000). In the lower grades, school focused on reading, writing, and arithmetic; in grammar school (grades 5 through 8) and high school, students studied geography, history, literature, and math. Learning consisted of drill, memorization, and recitation, which required preparation at home:

> At a time when students were required to say their lessons in class in order to demonstrate their academic prowess, they had little alternative but to say those lessons over and over at home the night before. Before a child could continue his or her schooling through grammar school, a family had to decide that chores and other family obligations would not interfere unduly with the predictable nightly homework hours that would go into preparing the next day's lessons. (Gill & Schlossman, 2004, p. 174)

Given the critical role that children played as workers in the household, it was not surprising that many families could not

afford to have their children continue schooling, given the requisite two to three hours of homework each night (Kralovec & Buell, 2000).

Early in the 20th century, in concert with the rise of progressive education, an anti-homework movement would become the centerpiece of the progressive platform. Progressive educators questioned many aspects of schooling: "Once the value of drill, memorization, and recitation was opened to debate, the attendant need for homework came under harsh scrutiny as well" (Kralovec & Buell, 2000, p. 42).

As pediatrics grew as a medical specialty, more doctors began to speak out about the effect of homework on the health and well-being of children. The benefits of fresh air, sunshine, and exercise for children were widely accepted, and homework had the potential to interfere. One hundred years ago, rather than diagnosing children with attention deficit disorder, pediatricians simply prescribed more outdoor exercise. Homework was blamed for nervous conditions in children, eyestrain, stress, lack of sleep, and other conditions. Homework was viewed as a culprit that robbed children of important opportunities for social interaction. At the same time, labor leaders were protesting working hours and working conditions for adults, advocating for a 40-hour workweek. Child labor laws were used as a justification to protect children from excessive homework.

In 1900, the editor of the *Ladies' Home Journal,* Edward Bok, began a series of anti-homework articles. He recommended the elimination of homework for all students under the age of 15 and a limit of one hour nightly for older students. His writings were instrumental in the growth of the anti-homework movement of the early 1900s, a harbinger of the important role media would play in the homework debate in the future. By 1930, the anti-homework sentiment had grown so strong that a Society for the Abolition of Homework was formed. Many school districts across the United States voted to abolish homework, especially in the lower grades:

> In the 1930s and 1940s, although few districts abolished homework outright, many abolished it in grades K–6. In grades K–3, condemnation of homework was nearly universal in school district policies as well as professional opinion. And even where homework was not abolished, it was often assigned only in small amounts—in secondary schools as well as elementary schools. (Gill & Schlossman, 2000, p. 32)

After the Soviet Union launched the *Sputnik 1* satellite in 1957, the trend toward less homework was quickly reversed as the United States became obsessed with competing with the Russians. Fearful that children were unprepared to compete in a future that would be increasingly dominated by technology, school officials, teachers, and parents saw homework as a means for accelerating children's acquisition of knowledge.

> The homework problem was reconceived as part of a national crisis: the U.S. was losing the Cold War because Russian children were smarter; that is, they were working harder and achieving more in school . . . the new discourse pronounced too little homework an indicator of the dismal state of American schooling. A commitment to heavy homework loads was alleged to reveal seriousness of purpose in education; homework became an instrument of national defense policy. (Gill & Schlossman, 2004, p. 176)

Within a few short years, public opinion had swung back to the pro-homework position. During this period, many schools overturned policies abolishing or limiting homework that had been established between 1900 and 1940. However, homework in the early elementary grades was still rare (Gill & Schlossman, 2004).

By the late 1960s and early 1970s, in the midst of the Vietnam War and the civil rights movement, a counterculture emerged that questioned the status quo in literally every aspect of personal and political life. A popular book, *Teaching as a Subversive Activity* (Postman & Weingartner, 1969), attacked traditional methods

of what was labeled "the educational establishment." Indicative of the times, a new debate emerged over homework and other educational activities. The anti-homework arguments were reminiscent of the progressive arguments of the early 20th century—again, homework was seen as a symptom of too much pressure on students to achieve.

Two prominent educational organizations went on record opposing excessive homework. The American Educational Research Association stated,

> Whenever homework crowds out social experience, outdoor recreation, and creative activities, and whenever it usurps time that should be devoted to sleep, it is not meeting the basic needs of children and adolescents. (In Wildman, 1968, p. 204)

The National Education Association issued this statement in 1966:

> It is generally recommended (a) that children in the early elementary school have no homework specifically assigned by the teacher; (b) that limited amounts of homework—not more than an hour a day—be introduced during the upper elementary school and junior high years; (c) that homework be limited to four nights a week; and (d) that in secondary school no more than one and a half hours a night be expected. (In Wildman, 1968, p. 204)

Not surprisingly, by the late 1960s and during the 1970s, parents were arguing that children should be free to play and relax in the evenings, and again the amount of homework decreased (Bennett & Kalish, 2006).

But by the 1980s the pendulum would swing again. In 1983, the study *A Nation at Risk* became the "first major report by the government attempting to prove that the purported inadequacies of our schools and our students were responsible for the troubles

of the U.S. economy" (Kralovec & Buell, 2000, p. 50). The report claimed there was a "rising tide of mediocrity" in schools and that a movement for academic excellence was needed (National Commission on Excellence in Education, 1983). *A Nation at Risk* planted the seed of the idea that school success was responsible for economic success. It ratcheted up the standards, starting what has been called the "intensification movement"—the idea that education can be improved if only there is more of it, in the form of longer school years, more testing, more homework. *A Nation at Risk* explicitly called for "far more homework" for high school students.

In 1986, the U.S. Department of Education published *What Works,* which also recommended homework as an effective learning strategy. "Whenever you come across a particularly savage attack on the state of public education, it's a safe bet that a call for more homework (and other get-tough messages) will be sounded as well" (Kohn, 2006, p. 120).

The pro-homework trend continued into the 1990s, as the push for higher standards resulted in the conclusion that more homework was a remedy. As noted earlier, this was not the first time homework became the scapegoat for the perceived inadequacies of public education:

> Whenever reformers attempt to improve the academic outcomes of American schooling, more homework seems a first step. The justification for this probably has more to do with philosophy (students should work harder) and with the ease of implementation (increased homework costs no extra money and requires no major program modifications) than with new research findings. (Strother, in Connors, 1992, p. 14)

During the late 1980s and the early 1990s, an occasional journal article would question whether more homework was necessarily better, but those voices were few and far between. Most journal articles and popular books about homework took the safe

position of being pro-homework and focused on strategies for getting children to complete homework. In 1989, Harris Cooper (now considered a leading expert on homework research) published an exhaustive synthesis of research on homework (1989a) that seemed to have little effect on popular practice and received little media attention. In 1994, a board member in the school district of Half Moon Bay, California, made national news by recommending that the district abolish homework. The board member "was widely vilified in the national press as just another California kook" (Gill & Schlossman, 1996, p. 57). The general media reaction was dismissive; the story was handled as cute and quirky, as if the idea of abolishing homework were just plain crazy.

By the late 1990s, however, the tide would begin to shift back to an anti-homework focus. With increasing frequency, articles critical of traditional homework practices were published in educational journals. In 1998, the American Educational Research Association conducted a symposium on homework practices. In 1998, Harris Cooper's latest research about homework (Cooper, Lindsay, Nye, & Greathouse, 1998) garnered much more public attention, catapulting the topic of homework into the popular press and landing him on *Oprah* and *Today.* In March 1998, the cover of *Newsweek* featured an article titled "Does Your Child Need a Tutor?" along with another article titled "Homework Doesn't Help" (Begley, 1998). In January 1999, *Time* magazine's cover story, "The Homework That Ate My Family" (Ratnesar, 1999), generated considerable media buzz. It portrayed homework as an intrusion on family tranquility and as just one more stressor in an already overstressed life, especially for two-career families. The article also cited a University of Michigan study showing that homework for 6- to 8-year-olds had increased by more than 50 percent from 1981 to 1997.

As homework increased, especially for the youngest students, and parents began feeling overwhelmed, stories detailing the struggle appeared widely in the popular press. Now the mood was

one of concern for overworked students and parents. In 2000, Piscataway, New Jersey, received national attention for implementing a homework policy that limited the amount of homework, discouraged weekend homework, and forbade teachers from counting homework in the grade (Kohn, 2006). Unlike the story about Half Moon Bay only six years earlier, *this* story was given serious media coverage, and the school district was deluged by requests from schools seeking a copy of the policy.

Also in 2000, Etta Kralovec and John Buell's book *The End of Homework: How Homework Disrupts Families, Overburdens Children, and Limits Learning* received massive media attention and spawned an ongoing debate between the anti-homework and pro-homework contingents. In 2006, two popular-press books kept the debate going: Kohn's *The Homework Myth: Why Our Kids Get Too Much of a Bad Thing,* and Bennett and Kalish's *The Case Against Homework: How Homework Is Hurting Our Children and What We Can Do About It.* Since then, the debate has continued with arguments similar to those first heard in the 1930s and 1960s. Like religion and politics, the arguments for and against homework stir intense emotions among parents, teachers, and administrators. To fully understand today's debate, we must first examine the beliefs about homework that have developed over the last 100 years and the cultural forces that have shaped them.

Laying Bare the Culture of Homework

Beliefs about the inherent goodness of homework are so entrenched, so unshakable for many parents and educators, they seem almost cultlike. For many, these beliefs are unexamined. Kralovec and Buell (2000) said it best: "The belief in the value of homework is akin to faith" (p. 9). The true believers hold homework in such reverence, many educators are afraid to recommend that we eliminate it completely. Too many people just won't accept the idea. How can anyone be against work? It's as

if the tradition of homework has been so romanticized as to be accepted as truth. Parenting magazines and newspaper articles accept without question that homework is part of school life and then continue to give advice on how to help kids complete it (Kohn, 2006). Freelance writers have learned that writing that is too anti-homework will probably not be published in the mainstream media.

To understand the *cult*ure of homework and how it developed over the last 100 years, it is necessary to dissect the dogma, which can best be summarized by five largely unexamined beliefs about children and learning. How many of these beliefs are based on fact, and how many are based on faith, tradition, or moral judgments?

Belief #1: The role of the school is to extend learning beyond the classroom. Many believe it is not only the inalienable right of teachers but their *obligation* to extend learning beyond the classroom. Inherent in this belief is the assumption that teachers have the *right* to control children's lives outside the school—that we have the right to give homework and that students and parents should comply with our wishes (more about this assumption in Chapter 2). Many teachers claim that homework keeps children out of trouble and that homework is better for children than television or video games. This view is rather dismissive of the judgment of parents to make good decisions about their child's use of free time. Is it really our job to be the moral policeman for our students' personal lives?

Perhaps our role in extending learning outside the school is to instill in students the value of learning and the joy of learning, and to expose them to the vastness of the universe—how much there is to learn. Perhaps our role is to help students find something in life they feel passionate about and to help them find their purpose in society.

Belief #2: Intellectual activity is intrinsically more valuable than nonintellectual activity. Many homework advocates believe

that intellectual development is more important than social, emotional, or physical development. Intellectual pursuits hold an implied superiority over nonintellectual tasks such as throwing a ball, walking a dog, riding a bike, or just hanging out. This belief presupposes the limited value of leisure tasks. Concurrently, some worry that too much unstructured time might cause children to be less successful, less competitive with others. As with Belief #1, this view shows a distrust of parents to guide children in the productive use of free time and a distrust of children to engage in intellectual pursuits on their own. In reality, physical, emotional, and social activities are as necessary as intellectual activity in the development of healthy, well-rounded children.

Belief #3: Homework teaches responsibility. One of the most resilient beliefs is that homework promotes responsibility and discipline. Even though there is no research to support this belief, many people continue to tout homework's nonacademic virtues (Kohn, 2006). *Responsibility* is often a code word for *obedience.* When we say we want students to be *responsible,* are we saying we want them to be *obedient*—to do *what* we want them to do *when* we want them to do it, to be mindless drones, blindly obedient to authority? One teacher said she thought not doing homework was a sign of disrespect for the teacher! When we say homework promotes discipline in students, does that mean being self-disciplined enough to do something they hate to do because it's their duty?

Many teachers are fixated on homework as *the way* to teach responsibility, as though we have no other avenues. Yet we tend to neglect all the other ways students *could* be given responsibility in the classroom—involving them in decision making about their learning, teaching them how to self-assess, letting them design learning tasks, or allowing them to help manage classroom and school facilities (Guskey & Anderman, 2008). Even in the task of homework itself, children are rarely given *responsibility* for choosing how they wish to learn, how they might show what they have

learned, or how they might schedule their time for homework. True responsibility cannot be coerced. It must be developed by allowing students power and ownership of tasks (Vatterott, 2007). (Chapter 4 presents more about how to do this.)

Another supposed virtue of homework is that it teaches time management. Does time management really mean the ability to delay gratification—to work when we want to play? Homework does not reinforce time management if adults have to coerce children into doing it; if children are coerced, they are not in charge of scheduling the time or making decisions about the use of the time.

If we are using homework to teach responsibility, won't 10 minutes of homework work just as well as 60 minutes? If we are using homework to teach time management, don't long-range projects that require scheduled planning do a better job of that than daily assignments?

Belief #4: Lots of homework is a sign of a rigorous curriculum. Many people equate lots of homework with a tough school, regardless of the type or length of assignments (Jackson, 2009). Parents will often brag: "My child goes to a really good school—he gets lots of homework." If the mind is a muscle to be trained (as was believed in the 19th century), then more work must equal more learning. If some homework is good for children, then more homework must be even better. If 10 math problems for homework are good, then 40 problems must be better. This belief, more than any other, is responsible for the piling on of hours of homework in many schools today. Yet we all know that those assignments could be busywork, of no educational value (Jackson, 2009). More homework gives the *appearance* of increased rigor, and "difficulty is often equated to the *amount* of work done by students, rather than the complexity and challenge" (Williamson & Johnston, 1999, p. 10, emphasis added). Ah, if it were only that simple. More time does not necessarily equal more learning. The "more is always better" argument ignores the quality of work and the level of learning

required. Rigor is challenge—but it is not necessarily the same challenge for each student. Given the diverse nature of students, challenging learning experiences will vary for different students.

Belief #5: Good teachers give homework; good students do their homework. Probably the most disturbing belief is the belief in the inherent goodness of homework, regardless of the type or length of assignment. Homework advocates have believed it for years, never questioning whether it might not be true. This belief is born from both the belief that homework teaches responsibility and discipline and the belief that "lots of homework" equals "rigor." If *good teachers give homework,* it naturally follows, then, that teachers who don't give homework are too easy. This mindset is so ingrained that teachers apologize to other teachers for not giving homework! Yet we know that some very good teachers don't give a lot of homework or give none at all. Instead of being apologetic, teachers who don't give homework should simply explain that they do such a good job of teaching that homework is not necessary.

The danger in the belief that *good students do their homework* is the moral judgment that tends to accompany this belief. To children who dutifully complete homework, we often attribute the virtues of being compliant and hardworking. To children who don't complete homework, we often attribute the vices of laziness and noncompliance. But is a lack of virtue the reason many children don't do homework? Therein lies the problem. Students without supportive parents (or with single parents overburdened trying to make ends meet), with inadequate home environments for completing homework, or with parents intellectually unable to help them are less likely to complete homework (Vatterott, 2007). Are these less advantaged students *bad?* Of course not.

These beliefs form a dogma, a homework culture. The foundations of that culture are a trinity of very old philosophies. Homework culture is a complex mix of moralistic views, puritanism, and behaviorism. The beliefs that underlie the homework dogma

have been fed by our moralistic views of human nature, the puritan work ethic that is embedded in our culture, and behaviorist practices that still reside in our schools. The five beliefs and these three philosophies are so well entwined, it's hard to tell where one idea begins and another ends. An exploration of these philosophies will illuminate the foundations of the dogma that is homework culture.

Moralistic Views: Who We Believe Students Are

Historically, one mission of the school has been to instill moral values. Unfortunately, much of traditional schooling operates on the theory that children are basically lazy and irresponsible, that they can't be trusted, and that they have to be coerced into learning. They must be controlled and taught to be compliant. Therefore, it follows that it is necessary to use homework to teach responsibility.

If students naturally have a tendency to do evil, then they cannot be trusted to use time wisely. Idle hands are the devil's workshop, and therefore children should not be idle. This philosophy assumes not only that children don't want to learn but also that learning is inherently distasteful.

The Puritan Work Ethic: Who We Want Students to Be

No one would dispute that we want to encourage students to work hard. After all, hard work is what made America great, right? The Puritans believed hard work was an honor to God that would lead to a prosperous reward. That work ethic brings to mind the stereotypical stern schoolmarm, rapping a ruler against the desk and saying "Get busy!" The tenets of the puritan work ethic most evident in homework culture are the following:

- Hard work is good for you regardless of the pointlessness of the task.
- Hard works builds character.
- Hard work is painful; suffering is virtuous.

Here we see the origin of Belief #4, that more work equals rigor, and Belief #5, that "good" students do their homework and "good" teachers make students work hard. Unfortunately, when it comes to learning, the bleaker side of the puritan work ethic has also taken hold:

> There is a prevalent myth that if a teaching/learning experience is too enjoyable it is somehow academically suspect. If it is "rigorous," or better yet painful, then it must have merit. (Raebeck, 1992, p. 13)

The work ethic is obvious in views that homework is a way to train students how to work—that homework trains students how to study, how to work diligently and persistently, and how to delay gratification (Bempechat, 2004). Along similar lines, homework is also viewed as practice for being a worker:

> Homework is *work,* not play. . . . It is assigned by a teacher for students to complete on the teacher's schedule, with the teacher's requirements in mind. So it helps to have the right attitude. Homework means business, and the student should expect to buckle down. As in the workplace, careless efforts and a laissez-faire attitude are likely to make the wrong impression . . . homework is, in part, an exchange of performance for grades. (Corno & Xu, 2004, p. 228)

The premise of Corno and Xu's article is that "homework is the quintessential job of childhood"—as though children need a job. Which begs the question: Is our job as educators to produce learners or workers?

Behaviorism: How We Think We Can Control Students

No philosophy is more firmly rooted in education than behaviorism. The idea that behavior can be controlled by rewards and punishment is so embedded in the day-to-day practices of school, one

rarely even notices it (Kohn, 1999). Discipline, grades, attendance policies, honor rolls, and even the way teachers use praise and disapproval—all reflect this philosophy that behavior can be controlled by external stimuli. So it's no surprise that teachers believe rewards and punishments are the way to *make* students do homework. When punishments don't work, teachers often increase the punishment, as if more of the same will accomplish the goal.

If we believe that good students do their homework and lazy students don't, then it becomes morally defensible to give failing grades for incomplete homework, thereby punishing the vice of laziness and rewarding the virtue of hard work. Behaviorism is most evident in the use of late policies and zeros for uncompleted homework (more about that in Chapter 4).

The moralistic, puritanistic, and behavioristic foundations are so firmly entrenched in homework culture, traditional homework practices may be accepted without question by both teachers and parents, as if a sort of brainwashing has occurred. To use a 1970s metaphor, "if you drank the Kool-Aid," you may not realize how the cult affects your attitudes about homework.

Forces Driving the Current Pro-Homework/ Anti-Homework Debate

Homework beliefs and their historical influences affect the debate today in insidious ways. The arguments today are strongly reminiscent of the earlier arguments for and against homework, yet something is different. This time around we face new and unique challenges.

No Child Left Behind

Never before have we lived with the specter of No Child Left Behind and the accountability it demands. The pressure to meet standards has never been more intense, and homework is seen as a tool for meeting those standards. The pressure has changed

education even at the kindergarten and 1st grade levels. A *Newsweek* cover story called it the "new first grade":

> In the last decade, the earliest years of schooling have become less like a trip to "Mister Rogers' Neighborhood" and more like SAT prep. Thirty years ago first grade was for learning how to read. Now, reading lessons start in kindergarten and kids who don't crack the code by the middle of the first grade get extra help. (Tyre, 2006, p. 36)

Many parents complain that homework is now routinely assigned in kindergarten and 1st grade. YouTube hosts a now famous 911 call from a 4-year-old preschooler who needed help with his "take-away" math homework. In the desperation to meet standards, even recess has been affected. One survey indicated that only 70 percent of kindergarten classrooms had a recess period (Pellegrini, 2005).

Media and Technology

Media and technology have broadened the homework debate to be more inclusive than in the past; more people are participating in the conversation. The Internet has given the public more information, served as a forum for many pro-homework and anti-homework blogs, and given us a window to similar debates in other countries. Today the homework debate is played out on iVillage and other parenting Web sites, as well as on radio and television and in the print media. Web sites such as www.stophomework.com (Bennett & Kalish, 2006) have united parents and given them strategies for protesting homework policies in their child's school. Technology has reduced the isolation of parents; their private homework struggles can now be vented in public with the click of a mouse.

Just as 100 years ago the *Ladies' Home Journal* writings sparked a movement, over the last decade the media have been a friend of homework reform. Since the release of Cooper's 1998 comprehensive study, major news magazines and talk shows have conducted

a national dialogue about homework and have brought increased attention to the anti-homework movement. With a seemingly endless supply of television talk shows, quasi-news shows (such as *Dateline*), and round-the-clock cable news coverage, issues affecting families—including homework—have received more coverage. The availability of online media has allowed us to access that homework story on *Today* or that homework article in the *New York Times* long after publication, and without leaving our homes. Media and technology have helped to accelerate the growth of the anti-homework movement.

But the media has also been an enemy of the anti-homework movement. Every year, around back-to-school time, the media buries us with books, magazine articles, and television segments that reinforce a blind acceptance of homework as a good thing, endorsing the importance of homework and offering parents the same stale tips for getting children to do homework "without tears." Throughout the school year, stories appear frequently about how to get your son or daughter into the Ivy League, how to ace the SATs, or how to help your child write a killer college essay.

The New Mass Hysteria

All this press fuels a mass hysteria among parents about their child's ability to compete and to be successful. An American Academy of Pediatrics report labeled the trend "the professionalization of parenthood":

> Parents receive messages from a variety of sources stating that good parents actively build every skill and aptitude their child might need from the earliest ages. . . . They hear other parents in the neighborhood talk about their overburdened schedules and recognize it is the culture and even expectation of parents. (Ginsburg, 2007, p. 185)

The new mass hysteria has parents driven by fear. It's a dog-eat-dog world, and the competition is tough. If you're not careful, you

won't survive. It's a high-stakes game, with your child's future on the line. For many parents, the mantra has become "do whatever it takes" to get their child accepted at the best college—all of this with a tacit acceptance of the premise that admission into Harvard equals a high-paying career, which equals happiness. As one high school student put it:

> People don't go to school to learn. They go to get good grades, which brings them to college, which brings them the high-paying job, which brings them happiness, so they think. (Pope, 2001, p. 4)

And as the superintendent in one wealthy district sardonically stated, "Our parents believe there are three career paths for their children: doctor, lawyer, and unsuccessful."

There seems to be little discussion that, in fact, this could be a faulty hypothesis, and only recently have some experts advised parents to question whether the Ivy League is right for *their* child. Three faulty assumptions actually feed this trend: (1) the Ivy League is the only route to success; (2) advanced placement (AP) classes are essential to get there; and (3) excessive homework is an inevitable part of AP or honors classes.

AP Haley

Talking with other parents at a neighborhood get-together, Haley's mom is worried. Even though Haley is a good student—taking three AP classes, active in cheerleading and other activities—her mom is worried that she is not in the top 10 percent of her class. "She's only in the top 15 percent—she can't get into the University of Texas unless she's in the top 10 percent." Her mom wishes kids today weren't so competitive and claims her daughter wants *to take three AP classes. She claims* she's *not pushing her daughter and doesn't even realize*

how clearly her anxiety about the future is communicated and how readily her daughter picks it up. Mom goes on to remind the others, "Look at the jobs John's kids got when they graduated from Peabody and Georgetown—all the money they are making!"

The stress is cultural—absorbed by parents and then fed to their children, creating a hypercompetitive attitude for both parents and children:

> Parents receive the message that if their children are not well prepared, well balanced, and high achieving, they will not get a desired spot in higher education. Even parents who wish to take a lower-key approach to child rearing fear slowing down when they perceive everyone else is on the fast track. (Ginsburg, 2007, p. 185)

This trend has led many parents to have a somewhat schizophrenic attitude toward homework. They complain about the stress homework brings to children, the battles over the dinner table, and the disruption to family life, yet at the same time they are worried about their child's ability to compete for entry into the best colleges. Although never proven by research, parents assume an automatic relationship between homework and future success. They have bought into the cult of beliefs about homework and accepted a connection between hours of homework and acceptance to an elite college. (Unfortunately, the manner in which many AP courses are taught reinforces this belief.) They wrongly assume that if it takes hours of homework in high school to guarantee admission to college, so be it.

One result of the mass hysteria has been a virtual explosion of the tutoring industry, now a $6 billion business (Bennett & Kalish, 2006). Some parents use tutoring to give their college-bound children a leg up. But more often, for parents who can afford it, the

answer to the stressful and time-consuming job of supervising homework has been to "subcontract" the job to a tutor.

One of the potential negative effects of the tutoring craze has been the possibility that mass tutoring may "raise the bar" for homework assignments. After all, if most students are getting adult help with homework, it gives teachers the misperception that the students know more than they really do. It makes it appear that students are ready for more challenging assignments.

The candy factory episode of the classic *I Love Lucy* sitcom comes to mind. Lucy and Ethel are hired to work on an assembly line wrapping chocolates that pass by them on a conveyor belt. Struggling to keep up with the pace, they begin taking chocolates off the conveyor and stuffing them in their mouths and their hats. When the supervisor comes to check on their progress, they appear to be keeping up, so she yells to the back, "Speed it up!" Mass tutoring has the same potential to affect the difficulty of homework assignments in wealthy communities while widening the gap between those wealthy students and disadvantaged students whose families can't afford tutors.

The Balance Movement

At the same time that some parents are mired in the mass hysteria, a backlash is occurring. Other parents are backing up and slowing down, seeking a balance in their children's lives. Although some are recommending that homework be abolished, many more are suggesting that excessive homework is interfering with family life and not worth the loss of a carefree childhood. The movement is less an anti-homework movement than an anti–excessive homework movement, based on the idea that children should not have longer than an eight-hour workday (Vatterott, 2003). As a reaction against the mass hysteria movement, these parents have decided they are unwilling to mortgage their son's or daughter's childhood for the nebulous promise of future success. Nearly 30 years ago, David Elkind warned about *The Hurried Child* (1981)—a trend to

push children too hard, to overstructure their time, and to burden them with too many adult responsibilities. Today's balance movement echoes that concern, and it is continuing to gain support among teachers, other professionals, and the general public.

In 2007, the American Academy of Pediatrics released a report indicating the importance of undirected playtime for children (Ginsburg, 2007). The report addressed the tendencies of parents to overschedule and "build résumés" for children, and the negative ramifications of such actions. The report stated that play not only enhances social and emotional development but also helps to maintain parent-child bonds. It also recommended that pediatricians encourage active play and discourage parents from the overuse of passive entertainment for children (such as television and computer games). Some parents have already heeded this advice. With the ability of children to be connected and stimulated 24/7, some parents are now beginning to limit screen time and force kids to take "media fasts." A worldwide Slow Movement, for both children and adults, is catching on and is documented in the book *In Praise of Slowness: Challenging the Cult of Speed* (Honore, 2004). The London-based author claims that the Slow Movement can help people live happier, healthier, and more productive lives by slowing down their pace.

Parents who feel strongly about the need for balance are concerned about both immediate and long-term effects of homework engulfing their children's free time. The immediate effects are simple—loss of leisure time, stress, and overall health.

Loss of leisure time. Parents often remark that, because of excessive homework, children are "losing their childhood" and "don't have time to be kids." They point to the need for fresh air, unstructured playtime, family time, and downtime. Their concerns are supported by recent brain research showing the importance of downtime and rest for peak learning efficiency (Jensen, 2000).

Stress. The stress levels of school-age children are another concern. "This hurried lifestyle is a source of stress and anxiety

and may even contribute to depression" (Ginsburg, 2007, p. 185). While some are recommending children's yoga and meditation as a way to cope with stress, others are targeting the sources of stress, and homework is a major culprit. Pediatricians and counselors report many stress-related symptoms, such as stomachaches and headaches, related to children's anxiety over their inability to complete homework. In an acknowledgment of the stress experienced by high school students, Stanford University now sponsors a program called Challenge Success (formerly called Stressed Out Students [SOS]) that works with school teams composed of the principal, students, parents, counselors, and teachers or other adults (Pope, 2005). The program helps schools implement school-level strategies known to improve students' mental and physical health and engagement in school.

Overall health. And finally, parents are concerned about the effect of excessive homework on the overall physical and psychological health of children. The traditional practice of assigning homework in every subject every night and the antiquated reliance on textbooks as curriculum have led to a physical problem. The weight of the backpack has been a subject of concern for some time, with an increasing number of students complaining of back pain (Galley, 2001). The American Chiropractic Association, the American Physical Therapy Association, and the American Academy of Orthopedic Surgeons all recommend that the weight of backpacks not exceed 15 percent of the child's body weight (Moore, White, & Moore, 2007). Yet in one study of students in grades 5 to 8, more than half the students interviewed said they regularly carried backpack loads that were heavier than 15 percent of their body weight, and roughly one-third of the students interviewed had a history of back pain (Galley, 2001). Research done more recently now supports the recommendation that 10 percent of body weight be the cutoff for safe use of backpacks at all grade levels. The problem has doctors so concerned that, beginning in 2005, the American Occupational Therapy Association

has sponsored a National School Backpack Awareness Day each September. Researchers recommend that schools review homework policies to reduce the necessity of carrying textbooks home (Moore et al., 2007).

Many children sacrifice fresh air, exercise, or sleep to toil over hours of homework. Recent alarming news about the level of childhood obesity, the negative effects of sleep deprivation, and the established connection between sleep deprivation and obesity add strong arguments to the move to reduce homework to allow for more exercise and sleep. One child advocacy expert has compiled cutting-edge research showing that direct exposure to nature is essential for healthy physical, emotional, and spiritual development. He warns that today's overworked and overscheduled children can suffer from what he calls *nature deficit disorder,* resulting in obesity, depression, and attention deficit disorder (Louv, 2005).

Love of learning. In addition to these short-term effects, parents are also concerned about homework's long-term effect on children. In educational circles, discussion almost exclusively focuses on short-term achievement or passing the test, not on what the practice of homework does to a child's long-term learning, attitude about learning, or attitudes about the intellectual life. But parents are worried about the potential of excessive homework to dampen their child's natural curiosity, passion, and love of learning. Their concern, as stated by Alfie Kohn, is that homework may be "the single most reliable extinguisher of the flame of curiosity" (2006, p. 17).

Summing Up

Historically, the homework debate has continued to repeat itself. But the flawed belief system that homework is grounded on has yet to be adequately challenged. What complicates today's debate is the diversity of attitudes about the value of homework. The

mass hysteria and balance movements illustrate the breadth of those attitudes. The pendulum is swinging both ways at the same time. As a country, the United States is so diverse economically, culturally, and in parenting styles, it is not surprising that not all would agree on a practice that bridges both school and family life. This diversity of attitudes requires not only a critical examination of homework practices but also a rethinking of the school-family relationship. This topic is discussed in Chapter 2.

Is homework an essential component of rigorous schooling or a harmful practice that alienates and discourages a significant number of students? The debate over homework has gone on for decades, but schools and families have changed in many ways, and, as author Cathy Vatterott notes, "There's a growing suspicion that something is wrong with homework."

Rethinking Homework: Best Practices That Support Diverse Needs examines the role homework has played in the culture of schooling over the years; how such factors as family life, the media, and the "balance movement" have affected the homework controversy; and what research and educators' common sense tell us about the effects of homework on student learning.

The best way to address the pro- and anti-homework controversy is not to eliminate homework. Instead, the author urges educators to replace the "old paradigm" (characterized by long-standing cultural beliefs, moralistic views, the puritan work ethic, and behaviorist philosophy) with a "new paradigm" based on the following elements:

- Designing quality homework tasks;
- Differentiating homework tasks;
- Deemphasizing grading of homework;
- Improving homework completion; and
- Implementing homework strategies and support programs.

Numerous examples from teachers and schools that have revised their practices and policies for homework illustrate the new paradigm in action. The end product is homework that works—for all students, at all levels.

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THE Strategic Teacher

Selecting the Right Research-Based Strategy for Every Lesson

Harvey F. Silver ■ Richard W. Strong ■ Matthew J. Perini

THE *Strategic Teacher*

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To Abigail—

for making sure we got it right.

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One of our favorite quotes comes from physicist Victor Weisskopf, who earned the title of "the ultimate civilized man" thanks to his accomplishments as a scientist, musician, leader, and teacher. The quote is "The only sin is if you hear a good idea and don't steal it." What we like about that line is that it reveals one of the deepest truths about individual success: It is, in large part, stolen from others. Through the prodigious talents of Victor Weisskopf, we alleviate some of the guilt we feel in presenting this book to teachers, who are its rightful authors.

Some of the teachers who've lent us their work appear by name in this book. We begin by giving them special thanks. Thank you to Barbara Heinzman, formerly of Geneva City Schools, Dr. Claudia Geocaris of Hinsdale South High School, Robin Cederblad of Downers Grove South High School, Toni Johnson of Penn Yan Academy, Michael Ledford of Dewitt Elementary School, Sherry Gibbon, formerly of Penn Yan Academy, and Carl Carrozza of Catskill Middle School. However, we know all too well that there are others—many others whose ideas have found their way into these pages. Though we have made every effort to reach all of the teachers whose work is found here, we fear that some have eluded us. We hope we have done their work justice, and we wish to thank them all.

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Foreword

Today, when we talk about educational research, we are generally talking about two different types of research. First, and most commonly, we are talking about meta-analysis, or the technique of combining existing research studies on a particular technique or strategy (say, a set of studies on the benefits of cooperative learning) in order to create a larger and more reliable field of data. Using this enlarged research pool, educational researchers are able to tease out patterns, make generalizations, and translate their findings into numerical data such as effect sizes, percentile gains, and the like.

A second type of educational research is known as *action research.* Action research seeks to set up controlled, scientifically valid experiments in classrooms. For example, an action research project might be set up with the intent of proving or disproving this thesis: *Teaching students how to form images while reading leads to significant improvement on reading test scores.* The teachers in Classrooms A, B, and C would then use an agreed-upon methodology for teaching image making to their students. Meanwhile, by deliberately *not* teaching image making in their classrooms, the teachers in Classrooms D, E, and F would serve as a control group. Test scores from the respective classrooms would then be compared, conclusions drawn, and there you have action research in a nutshell.

Over the last 10 to 15 years, education has seen an explosion in both meta-analytic studies and action research projects. Without question, this proliferation of research has made a difference in schools across the country and across the globe. In fact, I have spent the better part of the last two decades actively pursuing both of these lines of research and working to turn the abstractions, generalizations, and numerical data they create into practical techniques and strategies that schools and teachers could apply immediately and with confidence.

Yet, I have long sensed that a vital piece of the puzzle was missing. Researchers, for all the insights they provide, are bound to the tools and techniques of their discipline. What they were missing was the biggest and richest data field of all—the collected wisdom of our teachers who apply their craft daily in helping our children. In effect, we were getting better at the science of teaching: finding patterns, conducting experiments, making generalizations. What was missing was the art. That's where this book and its authors come in.

I have been paying close attention to the work of Harvey Silver and Richard Strong for 20 years now. Their model for integrating learning styles and teaching strategies to meet the full range of student diversity is, in my opinion, the best and most sensible approach to differentiation in education. I have also had the pleasure of working with them on a number of projects and professional development initiatives. What makes Harvey and Richard's work stand out is how collaborative it is. Under their Thoughtful Classroom professional development model, learning is a communal process. The consultant is never some sole authority lecturing to a room of note takers. Instead, teachers, administrators, and even students play an active role in shaping the learning experience so that it works for everyone. In addition, when it comes to the actual workshops, so much of their work takes place in the classroom. More than any other professional developers I know, Harvey and Richard look for every opportunity to work directly with teachers, not as researchers, consultants, or evaluators, but as fellow teachers committed to helping every student experience the wonder and the power of learning. In many ways, then, the work of Harvey Silver and Richard Strong is the mirror image of my own. I have always taken an approach that begins with the research and then worked to put that research into action. The authors of this book reverse the pattern. Their work originates in classrooms and schools and connects what happens there to the bigger picture provided by the research.

What connections they make. Through an innovation known as the Strategic Dashboard (see page 20 for an example), they show how each strategy in this book relates to nearly every idea that matters in instructional research: how the strategy serves as a unit design tool; how it can be used to differentiate instruction; what skills, facets of understanding, and types of knowledge it builds in students; how it is supported by current research. What's so attractive about this approach, other than its immediate usefulness to teachers, is how well it aligns with what I have found coming from the opposite direction as a researcher. Perhaps we should consider *The Strategic Teacher* a touchstone text, one of the very first documents in a new and exciting field where the science of teaching—the empirical reliability of meta-analysis and action research—is perfectly aligned with the art of teaching and the wisdom of the teachers who practice it every day.

—Robert J. Marzano, President
Marzano & Associates

PART ONE

Introduction

Welcome to Strategic Teaching: The What, the Why, and the How

The word *strategy* comes from two ancient Greek roots: *Stratos,* meaning "multitude" or "that which is spread out," and *again,* meaning "to lead" or, we might say, "to bring together." Thus, at its heart, the word *strategy* celebrates the difference between teaching and nearly all other professions: Most professionals see their clients one at a time, but teachers' clients come to them as groups of diverse individuals brought together by birth date, scheduling demands, and, occasionally, interest. The goal of teaching is to weave together a conversation that unites these disparate individuals around a common core of learning. Strategies are the different types or styles of plans teachers use to achieve this goal.

Although teachers have always used strategies (think of Socrates's dialogue, Jesus's parables, the medieval birth of the lecture), until recently most teachers had only a handful of generic techniques at their disposal: discussion, demonstration, lecture, practice, and test. Over the the last 50 years, however, teachers and researchers have created, revised, tweaked, and recast these five basic elements into hundreds of new forms.

In *The Strategic Teacher* we have collected 20 of the most reliable and flexible of these strategies (along with dozens of variations) and organized them into four distinct styles of instruction: a *Mastery* style that emphasizes the development of student memory; an *Understanding* style that seeks to expand students' capacities to reason and explain; a *Self-Expressive* style that stimulates and nourishes students' imaginations and creativity; and an *Interpersonal* style that helps students find meaning in the relationships they forge as partners and team members,

united in the act of learning. The goal of *The Strategic Teacher* is therefore simple indeed: to provide teachers with a repertoire of strategies they can use to meet today's high standards and reach the different learners in their classrooms.

We have designed this book to be read, but also to be used. To this end, we address these questions:

- What does strategic teaching look like?
- How are teaching strategies the same but different?
- Why does every classroom teacher need a repertoire of teaching strategies?
- How do we select the right strategy for a particular teaching and learning situation?
- How can we get the most out of our use of teaching strategies?

What Does Strategic Teaching Look Like?

Let's begin by peering into four different, but equally thoughtful classrooms. Gabrielle, Martin, Stephen, and Rimi don't work harder than their colleagues do. Rather, they work more strategically. Strategies help them and their students by providing a plan that addresses three questions:

1. What kind of structure will help my students achieve our purpose?
2. What role will I play in achieving this purpose?
3. What role will my students play in achieving this purpose?

In this way, strategies work like a kind of open-ended script that helps both teachers and students move thoughtfully toward their goal. To see how, let's focus on Gabrielle D'Abo's Mystery lesson on dinosaur extinction (from Figure A).

Like any good lesson, Gabrielle's began with a clear *purpose*. Gabrielle wanted students to practice and develop their abilities to reason and weigh evidence while using the concepts they were learning during her unit on extinction. The Mystery strategy supplied Gabrielle with a *structure* that helped her formulate her mystery, develop a set of guiding questions, and design 20 clues related to dinosaur extinction. The Mystery strategy also made the *teacher's role* clear to Gabrielle: She posed the mystery to students, explained what students were to do during the lesson, listened in on and coached student groups as they were assembling clues, and served as devil's advocate to help students shore up gaps in their emerging explanations. *Students' roles* were made obvious as well—they became detectives charged with studying clues; weighing evidence; and forming, testing, and revising their explanations of how and why a planet's worth of large and exotic beasts vanished from Earth.

FIGURE A Four Classrooms

Making Memories	**The More We Are Together**
On the upcoming final, students in Martin Finn's 11th grade civics class will be responsible for knowing and explaining 12 different principles of constitutional government. To help the class prepare, pairs of students are delivering brief lectures on each principle. Here's the twist: Each student lecture includes an opening discussion, a visual organizer, and a set of review questions that engage different forms of thinking. Students learned this format from Martin. They call it New American Lecture.	Rimi Meyer's 6th graders are studying biography as a writing genre. Today, the students are arranged in their regular Friday Community Circle groups. Today's topic: *Life Challenges: Where Do They Come From and How Do We Overcome Them?* Each group monitors and runs its own discussion as students explore the topic in their own lives and in the lives of the biographies they are reading together. A visitor to the classroom comments to Rimi, "I just can't believe how well these kids listen and how well they empathize with these historical figures and one another."
A Mystery Explained	**Mathematical Connections**
Gabrielle D'Abo's 4th graders are entering the third day of a three-week unit on extinction. For today's lesson, Gabrielle has designed a Mystery lesson. Working in groups of four, students examine and assemble a set of clues related to the extinction of dinosaurs. Each group's goal is to build chains of evidence that explain why the dinosaurs disappeared.	Looking back over last week's work on polynomials, Stephen Mulhall can see that his decision to use the Inductive Learning strategy has paid off. He began by asking students to create at least five different ways of categorizing polynomial expressions. The class then discussed the labels they gave each group, explained their reasons for grouping them the way they did, and worked to form generalizations about how each group might need to be treated mathematically. As they progressed through the unit, students revised both their categories and their generalizations. Now, with the unit nearly over, Stephen can see how much more flexibility and insight his class has when it comes to applying what they have learned in problem-solving situations.

Now, take a second look at the other teachers' strategic lessons shown in Figure A. Can you get a sense of the structure, teacher's role, and students' role from these descriptions?

How Are Teaching Strategies the Same but Different?

Words like "structure" and "role" make us think not merely in terms of plans but beyond that as a kind of drama. In this way, we can see teaching strategies as a new kind of script—a script designed to accommodate improvisation, student engagement, and response. All teaching strategies are similar in their universal commitment to structure, engagement, purpose, and

response. What makes teaching strategies different is their *style:* differences in purposes, structures, roles, and means of motivating and engaging learners. We group our strategies into four broad instructional styles, plus one group of strategies that integrates all four styles. The styles and their strategies are listed and described in Figure B.

Take another look at the four classrooms described in Figure A. Can you see how each teacher's strategy lessons represent the Mastery, Understanding, Self-Expressive, and Interpersonal styles respectively?

Why Does Every Classroom Need a Repertoire of Teaching Strategies?

While teaching strategies are not new to most educators, many educators have not been given the training or support needed to develop a repertoire of effective strategies. Research and experience demonstrate that teaching strategies are critical to the overall health of the classroom and to the academic success of our students for at least six distinct reasons:

1. **Strategies are tools for designing thoughtful lessons and units.** As teachers, lesson and unit design questions exert a profound influence on classroom decision making. It should come as no surprise, then, that educational researchers have spent many years working to develop clear

FIGURE B Style Strategies

Mastery Strategies	Interpersonal Strategies
focus sharply on increasing students' abilities to *remember* and summarize. They motivate by providing clear sequence, speedy feedback, and a strong sense of expanding competence and measurable success.	foster students' need to relate personally to the curriculum and to each other. They use teams, partnerships, and coaching to motivate students through their drive for membership and *relationships*.
Four-Style Strategies	
engage all four styles simultaneously, thereby encouraging students to develop a balanced and dynamic approach to learning.	
Understanding Strategies	**Self-Expressive Strategies**
seek to evoke and develop students' capacities to *reason* and use evidence and logic. They motivate by arousing *curiosity* through mysteries, problems, clues, and opportunities to analyze and debate.	highlight students' abilities to imagine and *create*. They use imagery, metaphor, pattern, and what if's to motivate students' drive toward individuality and *originality*.

and practical models for lesson and unit design—from Madeline Hunter's (1984) classic lesson design model, to Grant Wiggins and Jay McTighe's approach to *Understanding by Design* (2005), to Robert Marzano's work in classroom curriculum design (2003). From these models, we can extract five questions that every teacher needs to answer when developing a lesson or unit:

- How will the material be introduced?
- How will new information be presented?
- How will students practice and apply what they are learning?
- How will student learning and progress be assessed?
- How will students reflect on what they learn and their own learning process?

No single strategy can respond effectively to every question. Although New American Lecture is an ideal tool for presenting new information, it is notably weaker when it comes to promoting independent practice or assessing student progress. Only a repertoire of strategies guarantees that each and every element of effective design—introduction, new knowledge, practice, assessment, and reflection—gets its due in the lessons and units we teach.

2. **Strategies make the work of differentiating instruction manageable for teachers and motivating for students.** Let's begin our investigation into the relationship among strategies, motivation, and differentiation by listening to two students responding to the question: *Who was your favorite teacher?*

> **Kenny R.:** My favorite teacher had to be Ms. Gibbon. Ms. Gibbon taught U.S. history in a way I'll never forget. She used to teach historical periods and movements as recipes. I still remember my ingredients list: yeast makes dough rise, warm water activates yeast, salt brings out natural flavors, sugar adds sweetness, and so on. So, for particular periods or movements in U.S. history like the Progressive Era and the Civil Rights Movement, we would have to analyze the historical forces at work and use the recipe metaphor to explain the effects and reactions of each of these historical factors as if they were food ingredients. Sometimes, we would even have bake-offs, where we would present our recipes for teachers and other students to judge.

> **Rosalynne F.:** More than anyone else, Ms. Lacey got me ready for college because she was the first teacher who really taught me how to take notes. First of all, Ms. Lacey took the time to show us how she made notes. She'd put these difficult passages from textbooks or articles up on an overhead and she'd just sort of talk her way through them, stopping to summarize, asking questions, and making arrows and margin notes. Then we'd have these group practice and study sessions where we'd have to apply what she had taught us. Ms. Lacey was always there to give group members feedback on how we were doing and suggestions on how we could get better, so we always mastered new note-taking techniques pretty quickly.

Right away, we can see that Kenny and Rosalynne have very different ideas about learning. Kenny is drawn to the novel and imaginative aspects of learning, Rosalynne to practical skills, such as taking effective notes. Kenny favors teaching practices that allow him to explore surprising connections, such as the connection between history and cooking. For Rosalynne, good teaching looks an awful lot like good coaching, with an emphasis on modeling skills, practice sessions, and instant feedback. Finally, Kenny and Rosalynne evaluate their teacher's success in reaching them using different criteria. Ms. Gibbon gets high marks from Kenny because she was able to make history come alive in exciting and unforgettable ways. Rosalynne judges Ms. Lacey's success according to how well she prepared Rosalynne for the rigors of information management at the college level. The differences in how Kenny and Rosalynne approach, process, and relate their classroom experiences are the result of *learning styles.*

The long and prestigious history of learning styles begins with Carl Jung (1923), who discovered that the way we process and evaluate information develops into specific personality types. Later, Kathleen Briggs and Isabel Myers (1962/1998) expanded on Jung's foundation to create a comprehensive model of cognitive diversity made famous by their Myers-Briggs Type Indicator. Since then, new generations of educational researchers, including Bernice McCarthy (1982), Carolyn Mamchur (1996), Harvey Silver and J. Robert Hanson (1998), Edward Pajak (2003), and Gayle Gregory (2005) have studied, applied, and elaborated on learning styles and how to use them to improve teaching and learning. In synthesizing this expansive body of research with our 30 years of experience in helping schools and teachers motivate all students, we have identified four distinct learning styles. Figure C outlines these four styles.

Perhaps you're asking what all this has to do with research-based instructional strategies. The answer is *a lot.* As teachers, we have students like Kenny and Rosalynne in our classrooms, along with many other students with different learning style profiles. We can effectively differentiate instruction to motivate our Kennys, our Rosalynnes, and every student in our classroom by developing a repertoire of teaching strategies. Students are not the only entities in our classrooms with style preferences. Teaching strategies also have styles. Some strategies emphasize the successful application of content and skills and speak to Mastery learners; others engage Understanding learners by piquing curiosity and facilitating critical investigation; some strategies celebrate originality and address the imaginative side of Self-Expressive learners; still others motivate Interpersonal learners by focusing on the development of personal relationships and the classroom community.

Thus, the strategies in this book, which are organized by style, serve as a framework for differentiating instruction. By rotating strategies to incorporate all four styles into your instructional design, you will

FIGURE C The Four Learning Styles

Mastery Learners	Interpersonal Learners
Want to learn practical information and procedures. **Like** drills, lectures, demonstrations, and practice. **May experience difficulty when** learning becomes too abstract or when faced with open-ended questions. **Learn best when** instruction is focused on modeling new skills, practicing, and feedback sessions.	**Want to** learn about things that affect people's lives. **Like** group experiences, discussions, cooperative learning activities, role playing, personal attention. **May experience difficulty when** instruction focuses on independent seatwork or when learning lacks real-world application. **Learn best when** their teacher pays attention to their successes and struggles.
Understanding Learners	**Self-Expressive Learners**
Want to use logic, debate, and inquiry to investigate ideas. **Like** reading, debates, research projects, independent study, making cases or arguments, asking "Why?" **May experience difficulty when** there is a focus on the social environment of the classroom (e.g., cooperative learning). **Learn best when** they are challenged to think and explain their ideas.	**Want to** use their imaginations to explore ideas. **Like** creative and artistic activities, open-ended and nonroutine problems, generating possibilities and alternatives, asking "What if?" **May experience difficulty when** instruction focuses on drill and practice and rote problem solving. **Learn best when** they are invited to express themselves in unique and original ways.

naturally motivate all learners by addressing their preferred styles, and you will help students grow by challenging them to work in styles they might otherwise avoid. In addition, unlike methods of differentiation that quickly become overwhelming for teachers (and isolating for students) by emphasizing all the possible differences among students, a style-based approach makes the work of differentiating instruction eminently manageable.

3. **Strategies provide the tools needed to bring thoughtful programs alive in the classroom.** Many effective and thoughtful teaching and learning programs, including Grant Wiggins and Jay McTighe's *Understanding by Design* (2005), provide schools and teachers with invaluable guidance in designing, evaluating, and adjusting units of study so that they lead to deeper learning. Nevertheless, teachers often need some-

thing beyond a plan—they need a set of tangible strategies to direct the implementation of these plans in the classroom.

When Grant Wiggins and Jay McTighe sat down to create *Understanding by Design,* they developed six facets of understanding as indicators for determining the depth and quality of student comprehension:

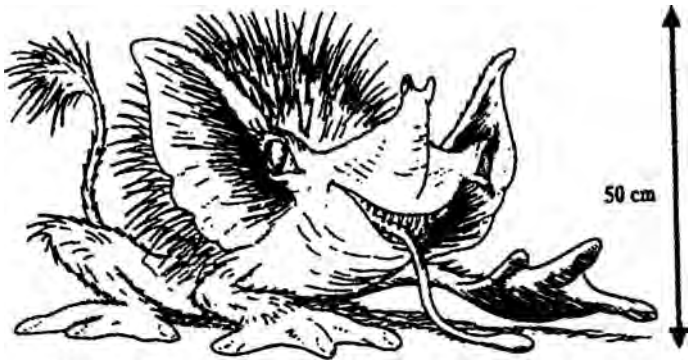
- *Explanation:* Summarizing and retelling big ideas and critical concepts
- *Interpretation:* Making sense of "interpretable" content, such as texts, data, art, and arguments
- *Application:* Using skills and knowledge in new and authentic contexts
- *Perspective:* Examining situations from an objective distance and recognizing the legitimacy of different viewpoints
- *Empathy:* Appreciating and identifying with others' ideas, situations, and motivations
- *Self-knowledge:* Developing the self-awareness needed to reflect on performance and grow as a learner

What teachers quickly discovered was that these facets could also play a critical role in defining the goals of instruction: What facets of understanding are essential to develop in relation to what I am teaching, and how will I help students build that understanding? A repertoire of teaching strategies does more than make possible the achievement of instructional goals that begin at the end—that is, with the end state of student understanding in mind. Strategies help teachers make the path to these goals clear and concrete.

4. **Strategies build the skills needed for success on state tests.** When state testing was relatively new but beginning to change the educational landscape in the United States, we initiated an investigation driven by a single question: What separates high achievers from low achievers on these new and increasingly prominent tests? For us, and for educators in general, this was a critical question because teachers and schools were being held accountable for students' success on standardized tests at exactly the same time that the very notion of standardized testing was changing radically. How were tests changing? Perhaps we can best represent this shift to the new generation of testing by looking at two test items (Figure D). One question typifies an older and more traditional standardized test item. The second represents the demands of the current generation of tests and test items.

What's the difference between these two items? In a word: skills. The traditional item, though it requires students to make the distinction between *endangered* and *extinct,* focuses squarely on finding a correct answer, on remembering a specific bit of information. The new item assesses students' deeper understanding of a key concept—*adaptation*—and asks them to demonstrate that understanding by applying multiple academic skills: interpreting visual information, conducting an analysis

FIGURE D Traditional Versus New Test Item

Traditional Test Item	New Test Item
Which of the following animals is **not** endangered? A) African elephant B) American alligator C) Blue whale D) Dodo bird E) Florida manatee	Below is an imaginary animal called a *Woggle*. **Based on its characteristics**, what **scientific** inferences can you make about its niche and habitat? In other words, tell about where it might live, what it might eat, and what role it might serve in its community. **Explain your thinking.**  *Illustration courtesy of the Connecticut State Department of Education (2001).

using criteria, making inferences, and writing a coherent explanation. Clearly, standardized testing had evolved.

We assembled and categorized test items from every state and in every major content area, extracted the skill sets required by various items, even conducted informal test-taking and interview sessions with groups of students identified by their teachers as high, average, and low achievers. What we found surprised us: Regardless of the grade level or content area being tested, student success hinged on a relatively small set of core skills—12 in all. Then came a bigger surprise: We found that these skills were radically undertaught and rarely benchmarked. In some cases, skills that proved especially vital to students' performance—skills like taking good notes or developing plans to address complex questions—were never mentioned in state curriculum documents. Therefore, we decided to call these skills, so critical to student success but often overlooked by schools, the Hidden Skills of Academic Literacy (see Figure E, p. 10).

If we expect students to perform well on state tests, we must teach them how to apply these skills without cutting into content. A repertoire of strategies represents the single most effective way to achieve this double purpose of managing content while developing the Hidden Skills of Academic Literacy. In fact, the strategies selected for inclusion in this

FIGURE E The Hidden Skills of Academic Literacy

Reading and Study Skills	Reflective Skills
• Collect and organize ideas through note making. • Make sense of abstract academic vocabulary. • Read and interpret visual displays of information.	• Construct plans to address questions and tasks. • Use criteria and guidelines to evaluate work in progress. • Control or alter mood and impulsivity.
Thinking Skills	**Communication Skills**
• Draw conclusions; make and test inferences, hypotheses, and conjectures. • Conduct comparisons using specific criteria. • Analyze the demands of a variety of higher-order thinking questions.	• Write clear, well-formed, coherent explanations in all content areas. • Write comfortably in the following nonfiction genres: problem/solution, decision making, argument, comparative. • Read and write about two or more documents.

book have all been chosen based on their capacity to develop at least two (and sometimes as many as six) of these Hidden Skills.

5. **Frequent use of strategies leads to consistent and significant gains in student achievement.** Perhaps no question in educational research has been answered more clearly over the last decade than this one: Do instructional strategies really make a difference in student achievement? The answer, a resounding *yes,* can be attributed to several meta-analytic research studies (studies that create a larger and more reliable pool of data by combining the findings from many other studies) conducted by researchers, including Kathleen Cotton (2000) and Arthur Ellis and Jeffrey Fouts (1997). Far and away the most important and influential of these meta-analytic studies came from the research team of Robert Marzano, Debra Pickering, and Jane Pollock (2001) under the title *Classroom Instruction That Works: Research-Based Strategies for Increasing Student Achievement.* Marzano and his team compared the effects of various teaching strategies on student performance and ranked the strategies according to the academic gains students made when exposed to each one. The findings are eye-opening, with strategies associated with *identifying similarities and differences* and with *summarizing and note taking,* for example, consistently yielding percentile gains of 30, even 40, points. From this research, nine distinct classroom practices are proven to make a positive difference in student performance. Marzano and his team refer to these classroom practices as "instructional categories." We prefer to think of them as "best bets" for raising student achievement.

Here are the nine categories or best bets for teachers and schools interested in helping their students reach higher levels of success:

1. Identifying similarities and differences
2. Summarizing and note taking
3. Reinforcing effort and providing recognition

4. Homework and practice
5. Nonlinguistic representation
6. Cooperative learning
7. Setting objectives and providing feedback
8. Generating and testing hypotheses
9. Cues, questions, and advance organizers (Marzano, Pickering, & Pollock, 2001)

All the strategies you'll find in this book have been selected with this important research in mind. Our goal in making this deep connection to *Classroom Instruction That Works* has been to make easier the difficult work of planning and delivering lessons and units in the age of accountability. Not only can teachers rest assured that each strategy is backed by a powerful and reliable research base, but they can also use the included Strategic Dashboards to document how they are incorporating current and widely respected research into their instructional plans. (More on these Strategic Dashboards later.)

6. **Strategies build different kinds of knowledge.** Imagine you were hired tomorrow to teach two lessons: (1) the causes of World War II, and (2) how to read a battle plan. Chances are you would not use the same strategy for both lessons. Teaching always includes finding a balance between *what* and *how,* between *content* and *skills,* between *declarative knowledge* and *procedural knowledge.* While it is true that good teaching strategies incorporate content and skills, it is also true that some strategies are better suited to helping students learn how to serve a tennis ball, write an essay, or construct a mathematical proof; meanwhile, other strategies slant toward the declarative side of content, enabling teachers and students to explore essential questions and delve into the riches of the various disciplines.

Of course, different students, situations, and instructional purposes make some of these reasons more important than others for different teachers. Which of these reasons for developing a repertoire of strategies is most important to you? Are there any other reasons?

Reasons are one thing. They offer us the *why,* the arguments for using strategies, but can they provide more? Can reasons go beyond the *why* to tell us *how* we can make good decisions about teaching? Can they give us clear guidelines for selecting the best strategy for particular situations? They can. In the next section we will introduce you to a practical tool for instructional decision making based on these six reasons. We call this tool the Strategic Dashboard.

How Do We Select the Right Strategy for a Particular Teaching and Learning Situation?

The Strategic Teacher supports teachers as they work to bring high-impact, research-based strategies into their classrooms. A quick survey

of the contents reveals that the four learning styles provide the overarching structure for this book. Parts 2 through 5 contain a set of strategies in the Mastery, Understanding, Self-Expressive, and Interpersonal styles, respectively. Part 6 discusses Four-Style strategies, or strategies that challenge students to work and learn in all four learning styles. As such, the book offers teachers a simple, effective method for differentiating instruction.

Nevertheless, differentiation using learning styles is only one argument for the regular use of research-based strategies in every classroom. We have also witnessed how strategies improve unit design, develop different facets of understanding, build academic skills, raise achievement levels, and teach both declarative and procedural knowledge. What we have learned from the teachers we work with is that these six reasons for using strategies correlate strongly with the questions teachers ask themselves when deciding which strategy to use. Together, we turned this insight into a decision-making tool called the Strategic Dashboard. Much as a car's dashboard offers drivers the "vital statistics" of driving instantly and in a visually appealing format, each Strategic Dashboard provides teachers with a concise, visual profile of a particular teaching strategy. Figure F shows the Strategic Dashboard for the Self-Expressive strategy called Mind's Eye.

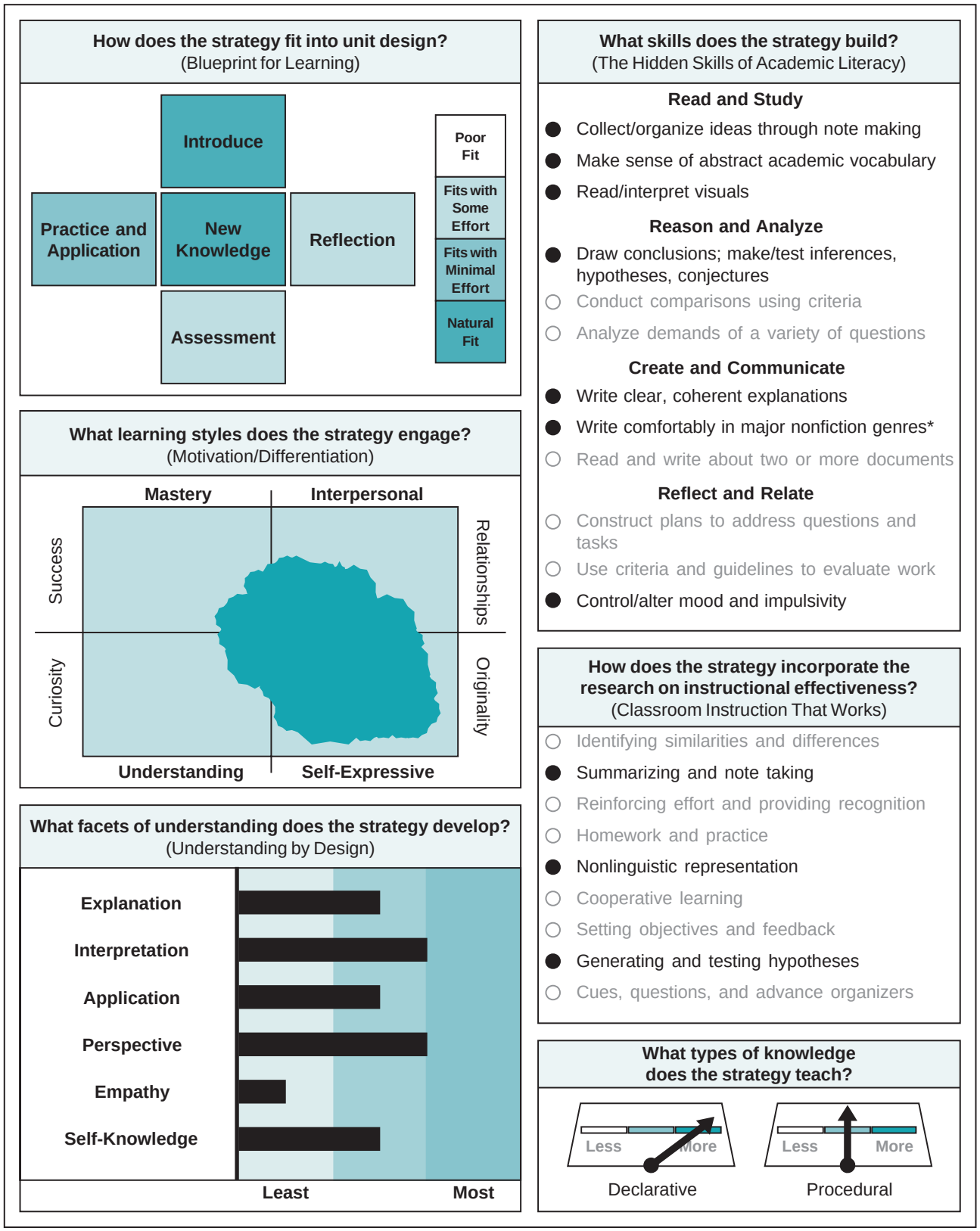
Notice how the dashboard is divided into six panels. The six panels correspond to the six reasons for developing a repertoire of strategies; each reason has been recast as a question related to selecting strategies for the classroom:

- How does the strategy fit into unit design?
- What learning styles does the strategy engage?
- What facets of understanding does the strategy develop?
- What hidden skills does the strategy build?
- How does the strategy incorporate the research on instructional effectiveness?
- What types of knowledge does the strategy teach?

Each panel on the dashboard visually answers a question so that teachers can see, at a glance, the vital statistics of any given strategy to determine how well it meets their instructional purposes. To understand better how the Strategic Dashboard works, let's take a tour of each of its six panels:

- **Panel 1: How does the strategy fit into unit design? (Blueprint for Learning)**—There are five kinds of lessons required for a unit to be successful: introduction, presentation of new information, practice and application, assessment, and reflection. This dashboard panel contains a "blueprint for learning" consisting of five squares—one for each type of lesson. The key appears on the right side of the panel and shows how

FIGURE F Strategic Dashboard for Chapter 12—Mind's Eye



*Mind's Eye is especially useful for building students' descriptive powers as writers.

well each strategy fits each kind of lesson. The darker the shading, the better the fit.

• **Panel 2: What learning styles does the strategy engage? (Motivation/Differentiation)—**Learning styles are the key to motivating students and to managing differentiated instruction. The learning styles panel indicates the learning styles that each strategy engages. It also includes a keyword reminder linking each style to its motivational principle:

◦ Mastery learners strive for *success*.
◦ Understanding learners are driven by *curiosity*.
◦ Self-Expressive learners see learning as an outlet for their *originality*.
◦ Interpersonal learners learn by building *relationships*.

This dashboard panel is best described as a radar screen depicting a "cloud cover" over the four learning styles. The more cloud cover in each quadrant, the more the strategy will appeal to students with that style.

• **Panel 3: What facets of understanding does the strategy develop? *(Understanding by Design)*—**This dashboard panel represents each of the six facets of student understanding as presented by Grant Wiggins and Jay McTighe (2005). Each type of understanding—explanation, interpretation, application, perspective, empathy, and self-knowledge—is represented with a bar. The distance the bar travels from left to right signifies the degree to which a particular strategy corresponds to that particular facet of understanding.

• **Panel 4: What skills does the strategy build?** (The Hidden Skills of Academic Literacy)—Each and every strategy evokes and models two or more of the Hidden Skills of Academic Literacy. There are 12 skills in all that are grouped into four categories. This dashboard panel is a simple checklist: dormant skills have empty circles and appear in gray, while applicable skills have filled-in circles and are presented in black.

• **Panel 5: How does the strategy incorporate the research on instructional effectiveness? *(Classroom Instruction That Works)*—**This dashboard panel presents the research on instructional effectiveness underlying each strategy. For efficiency and ease, we have decided to follow the nine categories outlined in Marzano, Pickering, and Pollock's (2001) well-known *Classroom Instruction That Works.* This dashboard panel is a simple checklist: Dormant instructional categories have empty circles and appear in gray, while applicable instructional categories have filled-in circles and are presented in black.

• **Panel 6: What types of knowledge does the strategy teach?—**This panel presents two meters, one for declarative knowledge and one for procedural knowledge. The meters indicate whether the strategy is more useful or less useful when teaching either type of knowledge.

Now that you have walked through one dashboard, for the sake of comparison, take a minute to examine a dashboard for a very different strategy, say Graduated Difficulty (p. 44) or Community Circle (p. 194). What differences are immediately noticeable?

In addition to the Strategic Dashboard that opens each of the 20 chapters, you'll also find that each chapter is organized into six sections:

1. *The Strategy Overview* provides a brief introduction to the strategy.
2. *The Strategy in Action* shows a teacher using the strategy in the classroom.
3. *Why the Strategy Works* explains the research base supporting the strategy and the benefit to the students.
4. *How to Use the Strategy* describes how to implement the strategy by following a list of clear steps.
5. *Planning a Lesson* leads the reader through the planning process, providing steps, examples, and suggestions for designing superior lessons.
6. *Variations and Extensions* provide teachers with additional tools, strategies, and resources for adapting and expanding their use of the strategy.

How Can We Get the Most Out of Strategic Teaching?

Before we launch the 20 strategies, here are four quick tips for becoming a more strategic teacher:

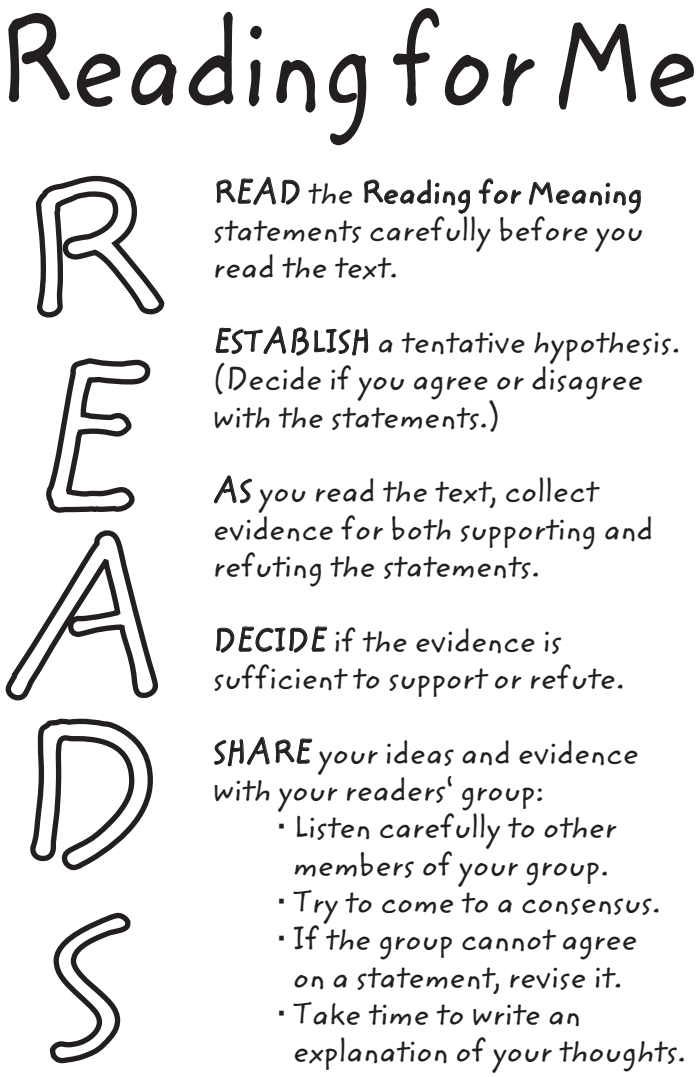
1. **Apply the 4-S approach to teaching:**
   - Standards
   - Students
   - Situations
   - Strategies

   Make *students* as important as *standards* by clarifying your learning *situation* and selecting the *strategy* that best fits your situation and motivates your students.

2. **Name that strategy.** Tell students what strategy you are using. Teach them the specific steps you will be moving through and the roles each of you will be playing. Research shows that classrooms where students are taught explicitly the steps and roles of the strategies teachers use become classrooms where students use strategies independently and thoughtfully (Brown, Pressley, Van Meter, & Schuder, 1996). Gabrielle D'Abo's classroom contains eight posters that describe the roles students play for each of her most frequently used strategies. Figure G (p. 16) shows her steps for the Reading for Meaning strategy.

3. **Practice strategic rotation.** Use all five types of strategies regularly and keep a record of what styles you use, along with how the students respond. Don't be afraid to experiment: If students are struggling, try using

FIGURE G Reading for Meaning Strategy Poster



a different strategy. Concept Attainment (Understanding) or Metaphorical Expression (Self-Expressive), for example, will help students grasp concept-heavy content. You can build a more collegial learning environment among students and foster better classroom relationships with Interpersonal strategies such as Community Circle or Reciprocal Learning. Content acquisition and focused skill building are usually best accomplished with Mastery strategies. To help all students become more complete and balanced thinkers and learners, try a Four-Style strategy such as Do You Hear What I Hear? or Task Rotation. The possibilities are endless and exciting; however, remember that styles are never pigeonholes. High-quality learning demands all styles of thinking, and teaching students how

to get the most out of their minds means rotating strategies across all styles.

4. **Keep moving forward by regularly looking backward.** Try not to use a strategy without sparing at least a few minutes to help your students reflect on the learning process. How did it affect their approach to learning? What obstacles did they confront? How did they overcome those obstacles? How can they improve their performance next time? Strategic teaching always involves helping students reflect on where they have been and assess the quality and depth of their current learning. Then—and only then—can we expect students to move forward as we work with them to enhance their ability to learn more in the future.

As authors, we try to keep our word, and as the title of this introduction suggested we should, we have spent the last 4,000 or so words discussing the *What* (what strategies look like and the differences among them), the *Why* (the reasons teachers need a repertoire of research-based strategies), and the *How* (guidelines for selecting strategies and implementing them in the classroom) of teaching strategies. All that is left are the strategies themselves.

PART TWO

Mastery Strategies

Mastery Strategies

Mastery strategies focus sharply on increasing students' abilities to remember and summarize. They motivate students by providing clear sequence, speedy feedback, and a strong sense of expanding competence and measurable success.

Strategy Chapters

1. New American Lecture is a strategy that makes lecturing interactive, memorable, and brain-compatible.

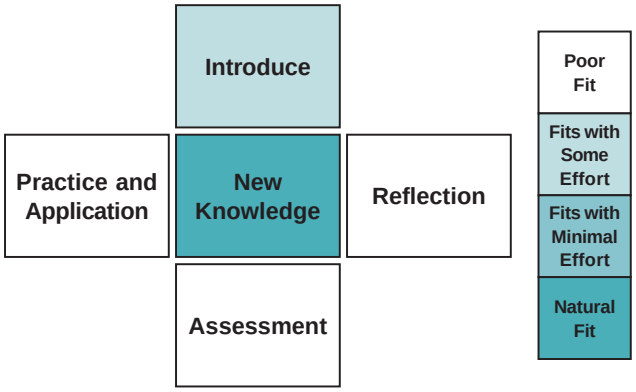
2. Direct Instruction employs a four-phase approach to skill mastery that leads to student independence.

3. Graduated Difficulty is a technique that allows teachers to differentiate instruction by ability or readiness level while helping students set and reach meaningful goals.

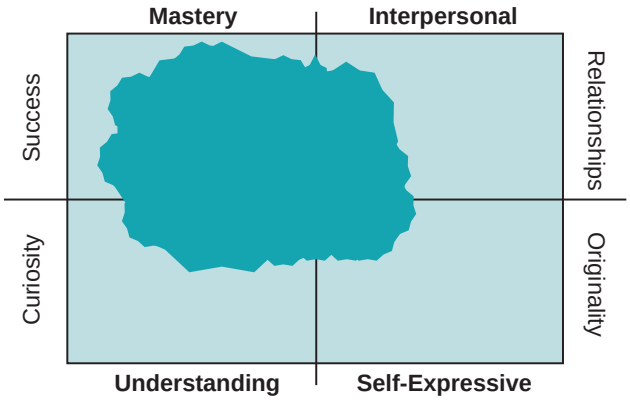
4. Teams-Games-Tournaments organizes students into cooperative study groups where they review critical content and help one another prepare to compete against students in other study groups.

1. NEW AMERICAN LECTURE

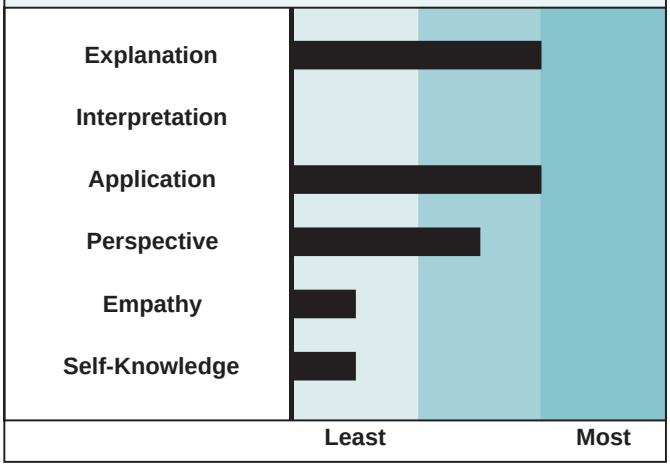
How does the strategy fit into unit design?
(Blueprint for Learning)



What learning styles does the strategy engage?
(Motivation/Differentiation)



What facets of understanding does the strategy develop?
(Understanding by Design)



What skills does the strategy build?
(The Hidden Skills of Academic Literacy)

Read and Study

- ● Collect/organize ideas through note making
- ● Make sense of abstract academic vocabulary
- ● Read/interpret visuals

Reason and Analyze

- ○ Draw conclusions; make/test inferences, hypotheses, conjectures
- ○ Conduct comparisons using criteria
- ● Analyze demands of a variety of questions

Create and Communicate

- ○ Write clear, coherent explanations
- ○ Write comfortably in major nonfiction genres
- ○ Read and write about two or more documents

Reflect and Relate

- ○ Construct plans to address questions and tasks
- ○ Use criteria and guidelines to evaluate work
- ○ Control/alter mood and impulsivity

How does the strategy incorporate the research on instructional effectiveness?
(Classroom Instruction That Works)

- ○ Identifying similarities and differences
- ● Summarizing and note taking
- ○ Reinforcing effort and providing recognition
- ○ Homework and practice
- ○ Nonlinguistic representation
- ○ Cooperative learning
- ○ Setting objectives and feedback
- ○ Generating and testing hypotheses
- ● Cues, questions, and advance organizers

What types of knowledge does the strategy teach?



Declarative Procedural

1 New American Lecture

Strategy Overview

New American Lecture is a strategic way of lecturing. The strategy is designed to answer two questions: (1) What does direct instruction look like when applied to the teaching of declarative content rather than the development of procedures and skills? (2) How can incorporating what current brain research tells us about how to make information memorable improve the classic lecture format? In developing and implementing a New American Lecture, the teacher provides students with five kinds of support:

1. To connect the learner to past knowledge and to build new connections, the teacher designs an activity that hooks students into the content and a bridge that links students' initial ideas to the content to come.
2. To organize and teach students how to collect information, the teacher provides students with a visual organizer that lays out the structure of the lecture content.
3. To increase involvement and make content memorable, the teacher uses memory devices and active participation techniques.
4. To help students process and integrate the information, the teacher conducts periodic thinking reviews.
5. To help students apply and evaluate their learning, the teacher provides synthesis and reflection activities.

The Strategy in Action

High school history teacher Aja Tucker introduces her unit on sectionalism (the period in U.S. history beginning around 1820, when the northeastern, southern, and western states became increasingly divided) by setting the stage as follows:

> Between 1820 and 1840, the differences among the Northeast, the South, and the West became so pronounced that during the election of 1836, the Whig Party ran three separate presidential candidates: one in the North, one in the South, and one in the West. The idea was to divide up the electorate, prevent the Democrats from winning a majority, and throw the election to the House of Representatives. This strategy is amazing for two reasons. First, it almost worked. Second, if you think back to our last unit, you'll remember that the country was more united than ever after the War of 1812. How did our country go from the Era of Good Feelings to a sharply divided nation in only a few short years? What factors and issues led to this level of disunity so quickly? Today, we're going to find out using a strategy called New American Lecture.

After piquing students' curiosity, Aja refers students to the map in their textbooks showing the geographic features, natural resources, and primary modes of economic income across the eastern half of the United States. "What I would like everyone to do," says Aja, "is spend two minutes studying this map while thinking about these questions:

- What are the key geographic features of each region?
- What do you notice about the resources and economies of each of these regions?
- How might these differences have contributed to the rise of sectionalism?"

Students jot their ideas down in their notebooks before pairing up to share and compare their ideas with a fellow student.

After surveying and recording students' responses, Aja distributes a blank matrix organizer, which previews the content of her lecture and provides space for students to record key information as Aja presents it. (Figure 1.1, p. 24, shows the completed organizer.)

Aja then begins her lecture by describing the key geographic features of the northeast, south, and west while using the map as a visual aid. As she describes geographic features, she asks students to close their eyes so they can "see" the rivers, coasts, and plains in their minds. After five minutes of presenting, Aja stops and instructs students to see what they remember by covering their organizers and describing the geographic features of each region. She calls on three different students to describe each region before moving to the topic of immigration.

Once again, as Aja presents, she reminds students to try and make a deep sensory connection with the information by mentally putting themselves in the shoes of the Irish, German, and African people who came to the United States during this period. Again, Aja makes sure she presents for no more than five minutes before posing her next review question. Because she knows the importance of engaging students in different styles of thinking, she is careful to rotate the styles of the review questions she asks. This time, Aja wants students to explain rather than recall, so she asks, "Why did more German immigrants move west while more Irish immigrants settled in the Northeast?"

Aja completes the lecture in this way, stopping every five minutes and asking students to process and review the new content by asking questions that require different styles of thought. For example, after her presentation on the economic bases of these three regions, Aja has her students make inferential connections by asking, "What links and relationships can you find between the geography of each region and the economic base that developed there?" After the fourth and final segment of her presentation on key political issues, Aja engages students in a more personal form of thinking by posing this question: "If you were living in one of these three regions, which issue do you believe you would feel strongest about? Why?" By the end of the lecture, students' organizers look like Figure 1.1.

To synthesize the lesson and help students apply their learning to current events, Aja presents students with this task:

> Imagine you are a professional speechwriter. The year is 1840, and congressional campaigns are kicking into full gear. Pick one of the three regions we discussed in class, and imagine that a congressional candidate has hired you to write a brief speech that will have maximum appeal to voters in the selected region. Select at least three political issues from your organizer and be sure to work them into your speech. Remember to craft your speech to rally voters around your candidate.

Second grade teacher Callie Murtaugh also uses New American Lecture. Today, she is using the strategy to deliver a language arts lesson on how sentences are constructed. She begins by asking students to examine two sentences and decide which one is more interesting:

1. Girls skipped.
2. The girls skipped happily to the circus.

After students have collected, shared, and discussed their ideas on how and why the two sentences are different, Callie builds a bridge to the lesson, telling students that they will be planting "sentence gardens" by asking *Who? What? Where?* and *How?* to build and expand new sentences. Callie begins by writing the words "boys run" in the "Who?" and "Does what?" positions on the sentence garden organizer. Then, as Callie

FIGURE 1.1 Completed Lecture Organizer

Sectionalism
1820–1840

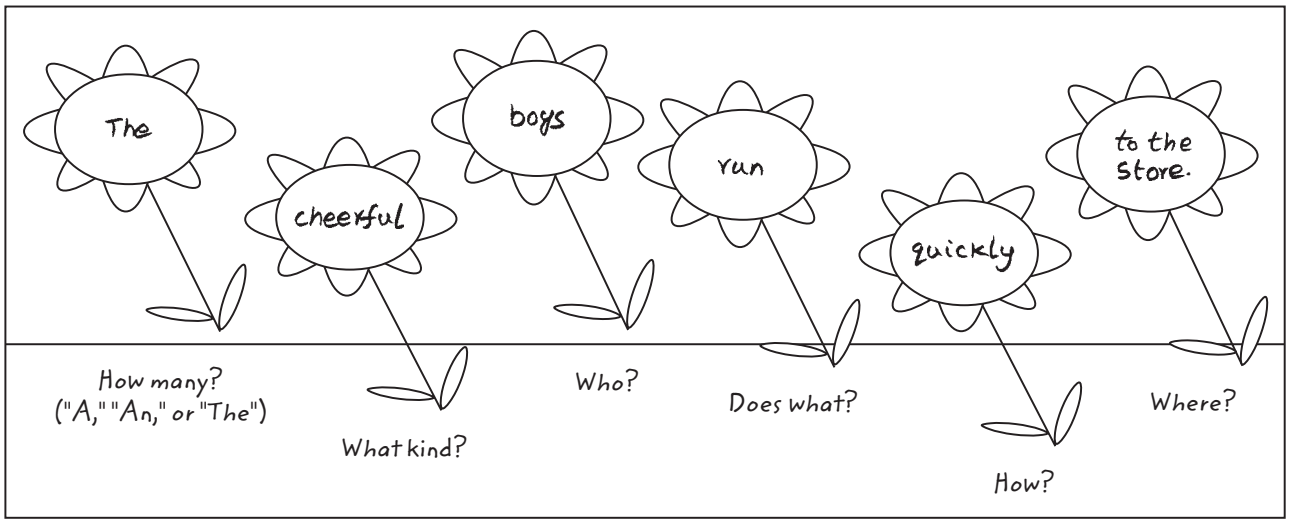
Definition	Northeast	South	West
Geography	• Narrow coast • Natural harbors • Little arable land between mountains and coast	• Wide coast • Few harbors • Wide, navigable rivers	• Plains • Lots of open, fertile land
Immigration	• Primary immigration from Northern Europe • Many Irish people came to work in factory jobs	• Primary immigration from Africa—slaves	• Central European immigrants • Many Germanic people became farmers
Economic base	• Commercial and industrial	• Slave economy • Agrarian emphasis on tobacco, then cotton	• Agrarian emphasis on grains
Political issues	• Favored national bank • Favored high tariffs • Favored increased immigration • Mixed on expansion • Favored road and canal development	• Opposed national bank • Opposed tariffs • Opposed new immigration • Favored expansion • Opposed road and canal development	• Opposed national bank • Mixed on tariffs • Favored increased immigration • Favored expansion • Favored road and canal development

continues to present, students fill out key information on their sentence garden organizers (see Figure 1.2).

As Callie and her students complete more sentence gardens during the lecture, Callie makes sure she stops every three to five minutes to allow students to process what they have learned. To facilitate processing, Callie asks students different styles of questions after each new sentence garden is complete. Callie's questions are as follows:

- What are the questions we use to expand our sentences? (Emphasizes recall)
- Can you expand the sentence "Butterflies fly"? (Emphasizes application)
- How is writing a sentence like planting a garden? (Emphasizes metaphorical thinking)

FIGURE 1.2 Sentence Garden Organizer



• Which part of our sentences do you like best? Can you tell why? (Emphasizes justifying personal preferences)

After completing the lecture, Callie allows students to talk in pairs and then with the whole class about what they learned and what they liked best about the lesson. As a way to help students practice and build interdisciplinary connections, Callie asks students to use their sentence garden organizers to create five sentences about different people they would find in their communities.

Why the Strategy Works

In recent years the lecture has fallen on difficult times. Prominent researchers have questioned its value, claiming it relies too heavily on auditory input and makes students passive recipients as opposed to active learners. Yet, most of us have attended or delivered wonderful lectures that have provided new insights or opened our minds to new worlds and new possibilities. Without question, lectures can be potent instructional strategies, great for conveying a large amount of information in a short time.

New American Lecture (sometimes called Interactive Lecture) provides teachers with a strategic format for designing and delivering lectures. The earliest manifestations of the strategy can be found in the work of David Ausubel (1963, 1968) whose theory of "meaningful verbal learning" sets the groundwork for upgrading the lecture through an anticipatory set or "hook" and a clear, visual organizational structure. Since

Ausubel's initial work, New American Lecture has evolved significantly, mostly in light of new and current research on human memory. Why this connection to memory? Because so much of the success of the lecture depends on students' abilities to get the content we deliver into their permanent memories. If students remember what we present, then the lecture proves to be a marvel of efficiency, allowing us to cover a lot of ground quickly; but if students lose the context within hours, then lecturing becomes a waste of precious classroom time. Viewed in this light, the question for educators is "How can we design and deliver lectures that will help students get key content into their permanent memories?"

Thanks to the work of cognitive scientists and psychologists, we now know a great deal about how to help students develop permanent memories. For example, we now know that there is only one type of memory but that memory serves different functions. We also know that three critical functions of memory are to (1) temporarily store the input we receive through the five senses (sensory memory); (2) permanently store and allow us to access all our accumulated knowledge (permanent memory); and (3) receive information from both permanent and sensory memory so that it can be processed at any particular moment (working memory) (Anderson, 1995). We know that processing information in multiple ways builds stronger memories (Paivio, 1990). Best of all, we know from the work of educational researchers such as Marilee Sprenger (2005), Eric Jensen (2005), and Robert Marzano (2004), how to incorporate these findings into our teaching to get students' attention through sensory memory, activate the processing capacities of working memory, and help students convert what they learn into permanent memories. In synthesizing this research, we have been able to extract four distinct principles of memory related to lecturing in the classroom:

1. Connection
2. Organization
3. Dual coding
4. Exercise and elaboration

The Principles of Memory

The Principle of Connection. The more that new information connects to a clear purpose and to students' prior knowledge, the easier it is to get students' attention and prime their memories. Here's how the New American Lecture incorporates this principle:

- The teacher uses a *hook* to capture the attention of the sensory memory and activate prior knowledge from the permanent memory.
- Students *kindle* their responses by jotting down ideas and pairing up to test them.
- The teacher builds a *bridge* between student responses and the content of the lecture.

The Principle of Organization. Organized information is easier to process and store in memory than information that lacks an organizational framework. Here's how the New American Lecture incorporates this principle:

- The lecture is designed around a visual organizer that helps students see the lecture's overall structure and "chunks."
- The teacher presents information one chunk at a time, allowing students to process information through the working memory before moving to the next chunk.

The Principle of Dual Coding. When the lecture incorporates visual, auditory, physical, and emotional experiences along with words, the information gets stored in multiple parts of the brain, thereby deepening the connection and facilitating recall. Here's how the New American Lecture incorporates this principle.

- The teacher ensures that processing using the working memory is strong and deep by
  - Using visuals
  - Inflecting his voice
  - Demonstrating ideas
  - Speaking with emphasis and emotion
- Students repeat, reinforce, and enrich their understanding of important ideas by
  - Defining them in their own words
  - Sketching them
  - Making physical representations
  - Exploring feelings associated with them

The Principle of Exercise and Elaboration. Giving students opportunities to elaborate on and practice using new information keeps the working memory active and its experiences varied, thereby facilitating the development of permanent memories. Here's how the New American Lecture incorporates this principle.

- The teacher stops every five minutes and poses a review question.
- The teacher rotates questions to engage different styles of thinking:
  - Recalling and reviewing information (Mastery style)
  - Drawing conclusions and making inferences (Understanding style)
  - Imagining and asking *What if?* (Self-expressive style)
  - Exploring feelings and values (Interpersonal style)
- Students apply their new learning to a synthesis task or comprehension test.

How to Use the Strategy

1. Prepare students for the lecture by "hooking" their attention with a provocative question or activity, allowing them to jot down and compare ideas with a partner ("kindling"), and then building a "bridge" between student responses and the new content.
2. Distribute, or work with students to create, a visual organizer.
3. Present information using auditory, visual, kinesthetic, and/or emotive cues to make information vivid and memorable.
4. Stop presenting every five minutes or so. Allow students to review and process learning by posing questions that engage different styles of thinking.
5. Allow students to evaluate and reflect on the content and the process of the lesson.
6. Assess learning using a synthesis task or more traditional evaluation technique such as a comprehension test.

Planning a New American Lecture

Planning a New American Lecture involves five basic steps:

1. Identify your topic
2. Design the visual organizer
3. Develop review questions
4. Design the hook
5. Develop a synthesis task

Identify Your Topic

You need to collect and chunk the information. If you think back to the sample lessons, you will remember that the collecting phase is when the students collect information by taking notes on the visual organizer. In the planning stage, it is your job to collect the information you want your students to collect during the lesson. The best way to collect information is to jot down key words related to the content. Do not feel you need to be orderly about this; jot down whatever pops into your head. For example, a 1st grade teacher who was planning a lesson called "A Walk Through the Four Seasons" jotted down the following words for winter:

> cold, snow, no bir ds, Christmas, sledding, snowball fights, Hanukkah, jackets, gloves, mittens, snow days, skiing, hot choc olate, hibernation, bar e trees, snowmen, short days, snow boots, sweaters, New Year's Day, Martin Luther King Jr. Day, inside

After you have generated your information, you need to understand how it all fits together. Look at all the key words you have identified and group them into categories. For example, even though the 1st grade teacher already had the natural categories of the seasons built into her content, she further broke up her lecture into these categories: clothing, holidays, activities, and nature/weather. Categories help you recognize the chunks in your lecture. As you group information, you may discover key words or concepts that need to be added.

Design the Visual Organizer

Visual organizers illustrate how information fits together to form a larger picture. Once you identify your content and explore how it all fits together, you can design a visual organizer that both you and your students will use during the lecture. Designing a good organizer depends on your ability to recognize different conceptual patterns information can take. Figure 1.3 (p. 30) shows a variety of organizers highlighting common conceptual patterns.

Develop Review Questions

As you make your plans to present information in roughly five-minute lecture sessions, decide on stopping points at which you will use questions to review material and engage all students. By rotating the styles of questions you pose to students during these review-and-process sessions, you give all students the opportunity to think about the content according to their preferred learning style. Moreover, by using an arsenal of questioning techniques, you create variety, arouse interest, and challenge students to move beyond their style preferences by thinking in all the styles. Figure 1.4 (p. 31) is a brief guide to the four styles of questions, along with examples from a variety of disciplines. (For more on the relationship between the four learning styles and classroom questioning, see Task Rotation, pp. 241–252).

Design the Hook

A *hook* is a provocative question or introductory activity that attracts student interest, focuses thinking, and opens memory banks closely associated with the new topic. In creating a hook, you should look over your organized information. What theme or concept unites your material? As with your review questions, you may want to use learning styles to differentiate the types of hooks you develop. Four teachers' style-based hooks are given on pages 31–32. Along with the way each teacher bridged students' responses to the lesson.

FIGURE 1.3 A Potpourri of New American Lecture Organizers

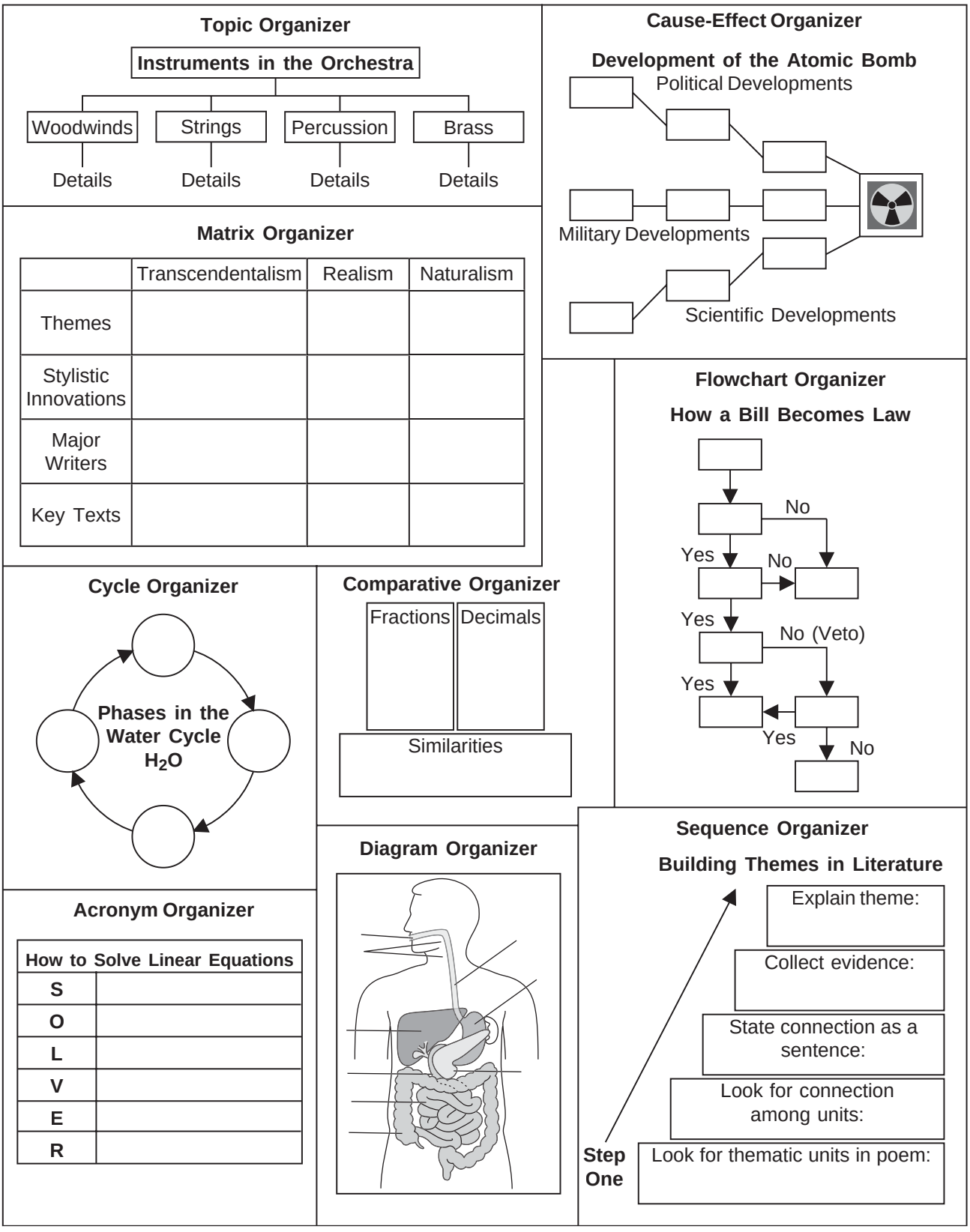


FIGURE 1.4 Questions in Style

Mastery questions emphasize recalling information:	**Interpersonal questions emphasize feelings, values, and personal experiences:**
• Summarize: In your own words, restate what we've said. • Prioritize: What were the two most important points? • Remember: Turn your paper over and see how much you can remember from this part of the lecture.	• Feelings: Which of these issues do you feel strongest about? Why? • Preferences: Which step in solving polynomial equations is hardest? Which is easiest? Why? • Role play or empathize: Suppose you are a student in Nazi Germany. How would you react if a friend had to wear a band declaring his religion?
Understanding questions emphasize analysis and use of evidence:	**Self-Expressive questions emphasize imagination:**
• Compare and contrast: What are the similarities and differences between U.S. attitudes toward the British in 1763 and in 1773? • Hypothesize: Identify some possible causes and effects for the information on the organizer. • Support with evidence: Find information in your organizer that proves or disproves this statement: *Long division is simply a complicated form of subtraction.*	• Metaphor: Create a metaphor for the commutative property. • Symbols: Design a flag that stands for what we know about Spanish explorers. • What if?: What would happen if Newton's third law were false? Suppose every reaction were double the force of the original action. Suppose it were half.

1. **Mastery**
   - **Hook:** Think for a minute about anything you know about scientific classification. What do you know about how scientists classify organisms?
   - **Bridge:** Good! You really know a lot about classification. Now let's build some new information on what you already know.
2. **Understanding**
   - **Hook:** Here are four long-division problems, two that involve remainders and two that don't. What differences do you notice? Why might there be these differences?
   - **Bridge:** Good! Now let me show you some more long-division problems, and we'll see which of your ideas are true.
3. **Self-Expressive**
   - **Hook:** Imagine that you came back to the United States 200 years from today, only to discover that it was no longer a superpower. What could have caused this change?
   - **Bridge:** Good! Now let's look into the fall of the Roman Empire and see if we can find any similarities.

4. **Interpersonal**
   - **Hook:** Think back on a time when someone persuaded you to change your mind. Why did you change your mind?
   - **Bridge:** Good! You've described the way people can be persuaded. Let's look at how a great speaker persuades her audience and see what else we can learn about persuasion.

Develop a Synthesis (or Comprehension) Task (or Comprehension Test)

You may choose to have students integrate and apply the knowledge they have gained in your lecture immediately, or you may choose to put assessment off until a later time. Because New American Lecture has the same instructional goals as a traditional lecture, you may choose to assess students' knowledge with a comprehension test. Alternatively, you may choose to have students complete a synthesis task in which they apply their learning to the creation of a meaningful product. For example, after a lecture on the four seasons, the 1st grade teacher we met earlier in this chapter challenged students to create a "Diary of a Tree" with pictures and entries for each of the four seasons.

Variations and Extensions

Student Presentations

Making presentations is an important academic and life skill. Students are introduced to the art of presenting as early as kindergarten when they are asked to give a book talk or present an item for show and tell. By the time they reach high school, students are asked to participate in debates and deliver engaging presentations. Furthermore, today's job market seeks workers who have the ability not only to collect, classify, and understand the constant flow of information, but also to present that information clearly and coherently so others can understand it.

Student presentations serve two purposes. First, you can use them to assess your students' comprehension of the content: Is all of the key information accounted for? Is it organized in a clear structure that shows the relationship between main ideas and details? Second, asking students to design and deliver a presentation allows you to assess their competence in key research, information management, and communication skills.

Of course, there is a wide variety of presentation methods students can use or be asked to use. Figure 1.5 outlines seven common types of presentations and links each to a purpose and to assessment criteria typically used to determine the quality of each type of presentation.

Once the parameters of each type of presentation have been made clear, you can develop tasks accordingly. The following narrative-based

presentation task designed by a 5th grade English teacher demonstrates what we have discussed in Chapter 1.

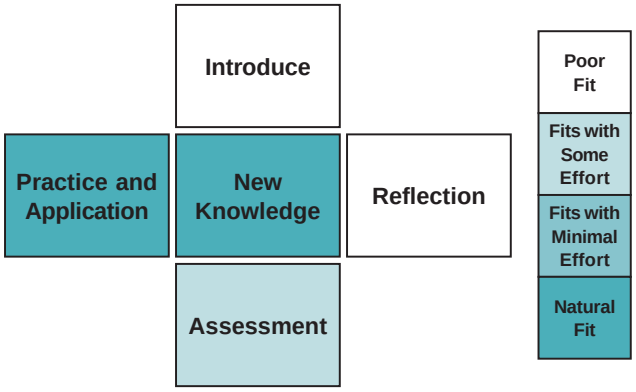
> Over the next few weeks we're going to read several short stories. As we read, we will pay close attention to how the authors create characters (What are their feelings? How do they respond to events in the story? etc.), and how they develop a plot or story (What happens? Where does the story take place? What problems arise? How are the problems solved?). After we have completed our readings and you have gathered notes and information on how writers create characters, settings, conflicts, and resolutions, you will be asked to create a story of your own. Your story must have at least two characters, take place in an interesting setting, and pose some sort of problem or conflict to be solved. You will read your story to the class, and your story will be assessed according to these criteria:
>
> • Does it have a well-formed and creative narrative?
>
> • Does it show an understanding of narrative techniques that we learned in our unit?
>
> • Was your reading to the class passionate and engaging?

FIGURE 1.5 Seven Types of Presentations

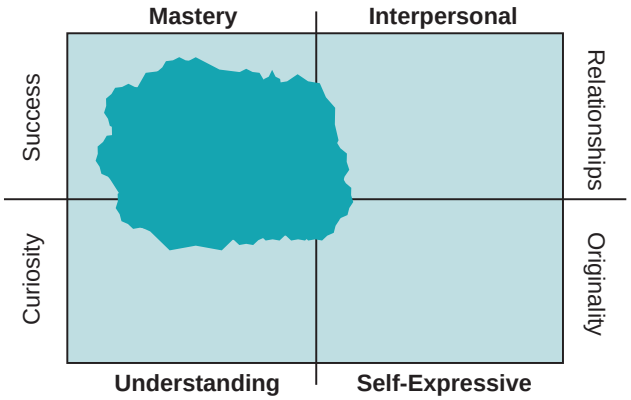
Type	Purpose	Assessment Criteria
Recount	To tell what happened	Accurately describes sequence of events
Instruction	To present a lesson or demonstrate a skill	Clearly describes the content or how to perform or execute the skill
Narrative	To entertain, to inform, to share thoughts and reflections	Describes information in an entertaining way
Information Report	To describe what is known about a certain topic	Presents information in a clear and organized way
Explanation	To explain causes and/or effects	Provides logical reasons behind causes and effects; tells *why* rather than describes *what*
Argument	To lay out a position and support it	Lays out a clear position, cites evidence and reasons, considers counterarguments
Inquiry	To develop and support a hypothesis through research	Presents a well-formed and feasible hypothesis; uses multiple sources of evidence to support it

2. DIRECT INSTRUCTION

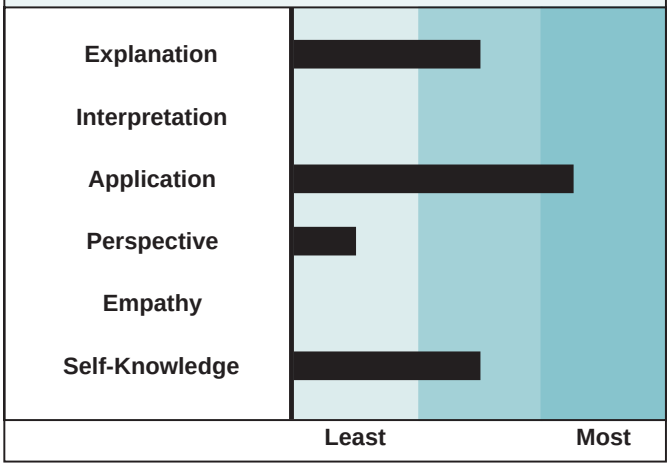
How does the strategy fit into unit design?
(Blueprint for Learning)



What learning styles does the strategy engage?
(Motivation/Differentiation)



What facets of understanding does the strategy develop?
(Understanding by Design)



What skills does the strategy build?
(The Hidden Skills of Academic Literacy)

Read and Study

- ● Collect/organize ideas through note making
- ○ Make sense of abstract academic vocabulary
- ○ Read/interpret visuals

Reason and Analyze

- ○ Draw conclusions; make/test inferences, hypotheses, conjectures
- ○ Conduct comparisons using criteria
- ● Analyze demands of a variety of questions

Create and Communicate

- ○ Write clear, coherent explanations
- ○ Write comfortably in major nonfiction genres
- ○ Read and write about two or more documents

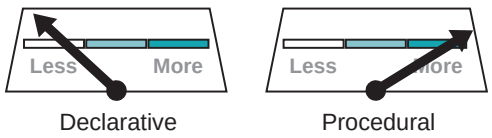
Reflect and Relate

- ● Construct plans to address questions and tasks
- ● Use criteria and guidelines to evaluate work
- ● Control/alter mood and impulsivity

How does the strategy incorporate the research on instructional effectiveness?
(Classroom Instruction That Works)

- ○ Identifying similarities and differences
- ● Summarizing and note taking
- ● Reinforcing effort and providing recognition
- ● Homework and practice
- ○ Nonlinguistic representation
- ○ Cooperative learning
- ● Setting objectives and feedback
- ○ Generating and testing hypotheses
- ○ Cues, questions, and advance organizers

What types of knowledge does the strategy teach?



Education

THE Strategic Teacher

Selecting the Right Research-Based Strategy for Every Lesson

Foreword by Robert J. Marzano

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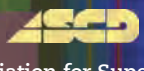

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Are you looking for high-impact, research-based strategies to transform your students into high-achieving and inspired learners? In *The Strategic Teacher*, you'll find a repertoire of strategies designed and proven to meet today's high standards and reach diverse learners. Twenty reliable, flexible strategies (along with dozens of variations) are organized into these groups of instruction:

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- self-expressive style to stimulate and nourish students' imaginations and creativity;
- interpersonal style to help students find meaning in the relationships they forge as partners and team members, united in the act of learning; and
- four-style strategies that integrate all four styles.

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- the research base supporting the strategy and how the strategy benefits students;
- how to implement the strategy using a list of clear steps;
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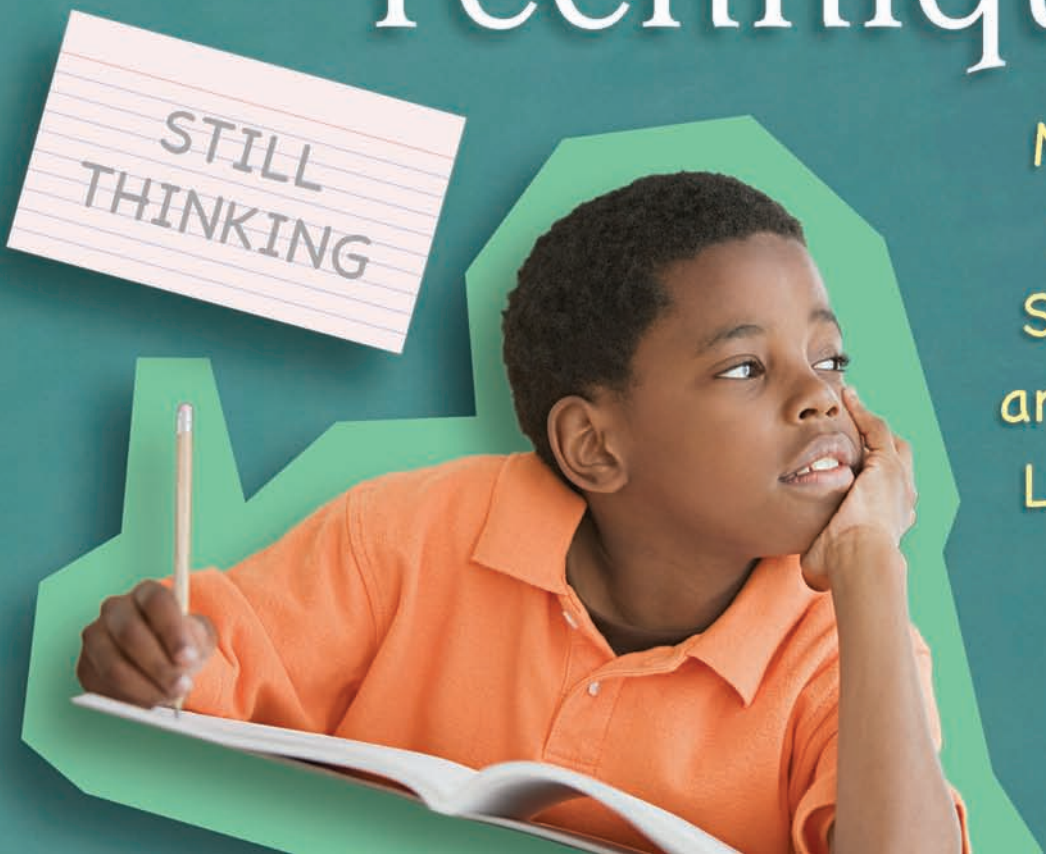
- additional tools, strategies, and resources for adapting and expanding the use of each strategy.

The authors have combined their years of research and practice to deliver reliable, high-impact, flexible teaching and learning strategies grounded in current, highly regarded research to teachers at all levels of experience.

Pérsida Himmele
William Himmele



Total Participation Techniques



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This book is dedicated to
Keely Potter, who has made such
a positive difference in
the lives of so many children.

Total Participation Techniques

Making Every Student an Active Learner



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Appreciation and thanks to our many workshop participants and college students, whose feedback (either by way of droopy eyes or high-fives) taught us the importance of TPTs at any age. And we want to thank our families, our parents, and siblings, who have taught us that a good education leads to vocational choice and freedom, and that being at the center of education can help us directly and indirectly be the answer to the prayers of a parent's heart for his or her child.

A very special thanks to our children, Gabriela and Caleb, who are always in the center of our minds when we write. Thanks for keeping us grounded in what matters to kids.

Finally, immeasurable thanks to our Heavenly Father, for giving us the gifts of life, love, and learning.

Introduction

Have you ever noticed how teachers react to the type of professional development seminars known as "stand and deliver"? By "stand and deliver," we certainly don't mean the Jaime Escalante movie about improving students' understanding of math. We mean the type of teaching that occurs when presenters stand and deliver long, drawn-out presentations in lecture style. The next time you're a recipient of this type of presentation, look around and observe your peers. Most likely some of them have their laptops open and are e-mailing, tweeting, or texting friends; others are openly chattering away; and some are quietly heading for another cup of coffee just to maintain their respectful composure. All this goes on while the speaker drones on and on.

Whereas adults have discovered activity-based coping mechanisms, children don't have that luxury. Although some students will find ways to become *actively* disengaged, many are respectfully but *passively* disengaged. Most aren't allowed to carry cell phones or laptops, and most aren't allowed to chatter away while in class. Many children have learned to cope by simply following the teacher with their eyes. Often they're sitting on the periphery of the classroom, looking at the teacher, but in reality they are miles away. They are certainly not actively and cognitively engaged. And unfortunately, too often students choose to respond to the boredom and disengagement by simply dropping out of school entirely. If stand-and-deliver teaching isn't good enough for our professional development seminars, why would it be good enough for our children?

This book aims to provide an alternative to stand-and-deliver teaching through Total Participation Techniques (Himmele & Himmele, 2009). We hope to provide ways to actively and cognitively engage students in the learning process. We have written this book for teachers, using real classroom examples and a variety of field-tested techniques that can be implemented in your classrooms

tomorrow. It is also for administrators who want to provide teachers with a toolkit of such techniques and a model for analyzing lessons in a way that can help teachers make their classrooms engaging places where the content is made relevant and deep to students. It can even be used by college professors and professional developers who are tired of relentlessly lecturing. Yes, even with adult students, these techniques can enhance the delivery and understanding of the concepts that you are hoping to teach. Many of the Total Participation Techniques presented will work regardless of whether you teach preschool or college physics. As you read, we encourage you to pause and think about how you might modify and apply each of the techniques to the specific audience that you teach.

This book covers the *why* and the *how* of Total Participation Techniques (TPTs). First we look at the *why* in Chapters 1 and 2, exploring the heavy toll that disengagement is taking on student success. In the United States, slightly more than 30 percent of students fail to graduate from high school (Greene & Winters, 2005). Although others graduate in spite of disengagement and boredom, they fail to flex their cognitive muscle and develop higher-order thinking skills that could have made the learning deep, lasting, and meaningful. We believe that the use of TPTs could have made a difference for these students. The *how* is addressed in Chapter 3 on tools and supplies, such as TPT folders, that allow for smooth and seamless infusions of TPTs in your classrooms. Then, in Chapters 4 through 7, we present the actual techniques for ensuring total participation. Most of the presentations include the following four sections:

Description—We present an overview of the technique.

How It Works—We present specific steps for using the technique.

How to Ensure Higher-Order Thinking—We present ideas for going beyond surface-level comprehension.

Pause to Apply—We encourage teachers to adapt and personalize the technique to the contexts and content areas that they teach.

Finally, Chapters 8 and 9 address how TPTs can function as formative assessments and how to create "TPT-conducive" classrooms.

This book is also a visit to a modern-day school, with teachers who have created TPT-conducive classrooms. You'll meet the following excellent teachers from Manheim Central Middle School in south-central Pennsylvania:

Meghan Babcock, 6th grade teacher

Matt Baker, 8th grade English teacher

Courtney Cislo, 5th grade teacher

Liz Lubeskie, 8th grade history teacher

Shannon Paules, 7th and 8th grade English teacher
Keely Potter, reading specialist
Mike Pyle, 5th grade teacher
Julie Wash, 6th grade teacher

We have included insightful conversations with these teachers, who eloquently phrased what we were hoping to say. At the time of the observations, the teachers ranged in teaching experience from 2 to 16 years, with the average being 9 years. Their implementation of the techniques provides this book with real-life examples of how you might implement the same techniques in your content areas.

We also have included examples from Heather Berrier, a 5th grade student teacher from Millersville University. Heather was truly excellent at implementing TPTs in her daily lessons, and she is proof that TPTs can work for novices as well as experienced teachers.

We hope that this book will spark conversations among teachers and administrators around the topic of active participation and deep cognitive engagement for students. We also hope that you will begin conversations with us. We invite you to join us by posting on our wall on the ASCD EDge networking site. Simply do a web search for *ASCD EDge*, join the networking site, type *Himmele* in the search box, and post on our walls. We would love to hear from you.

Section I



TPTs and Engagement

1

The High Cost of Disengagement

Train teachers to call only on students who raise their hands and to build on correct responses to maintain a brisk classroom pace. This would enhance the self-confidence of already proficient students and minimize class participation and engagement among those who enter with lower proficiency.

—Kim Marshall, "A How-to Plan for Widening the Gap"

Think about the typical question-and-answer session in most classrooms. We call it "the beach ball scenario" because it reminds us of a scene in which a teacher is holding a beach ball. She tosses it to a student, who quickly catches the ball and tosses it back. She then tosses it to another student. The same scenario happens perhaps three or four times during what is poorly referred to as a "class discussion." Although the teacher asks three or four questions, only two or three eager students actually get an opportunity to demonstrate active cognitive engagement with the topic at hand (we say two or three because a couple of enthusiastic students usually answer more than one question). Often even seasoned teachers can relate to the problem of calling out a question and getting a response from only one or two students. They get little feedback from the others and don't get an accurate assessment of what the others have learned until it's too late. They remember the beach ball scenario. For many, they did it just yesterday. Let's face it: we can all get lost in the beach ball scenario.

The problem with tossing the beach ball is that too many students sit, either passively or actively disengaged, giving no indication of what they are thinking or of what they have learned. They have effectively learned to fly beneath the radar. Do you remember being in this class? Was it a high school

or an upper-elementary content class many moons ago? Did you actually even read the book? Well, we'll make no confessions here, for fear that high school diplomas can actually be revoked after issuance. But our point is this: unless you intentionally plan for and require students to demonstrate active participation and cognitive engagement with the topic that you are teaching, you have no way of knowing what students are learning until it's often too late to repair misunderstandings. With approximately six hours of actual instructional time per school day, what percentage of that time are students actively engaged and cognitively invested in what is being taught or learned in your classroom? What evidence do we as teachers have that students are actually cognitively in tune with us? And what wonderful and deep critical thinking are we missing out on by not requiring evidence of processing and content-based interaction by our students?

Listening Objects

Unfortunately, as mentioned in the Introduction to this book, too much of today's teaching is characterized by a stand-and-deliver approach to presenting content, in which teachers simply stand at the overhead or the front of the room and deliver the material to be learned. Paolo Freire (2000) describes students in this type of a scenario as "listening objects" (p. 71). Would you like to be a *listening object*? Think about it. Would it warm your heart to know that you daily pack your children's lunches and they eagerly race off to school where they sit and become someone's *listening objects*? Education built around the notion of listening objects or stand-and-deliver teaching is not effective for young minds, and it doesn't work for adults either. At any age, people need to pause and process what they're learning. They need to chew on concepts, jot down their thoughts, compare understandings with peers, articulate their questions, and as reading specialist Keely Potter puts it, "celebrate the learning that is happening right now in my head."

Disengaging and Dropping Out

Every nine seconds, we lose a student due to dropping out (Lehr, Johnson, Bremer, Cosio, & Thompson, 2004). Although recent indicators point to progress within overall graduation rates, even the encouraging reports still indicate that at least a quarter of our students drop out (Aud et al., 2010; Balfanz, Bridgeland, Moore, & Hornig Fox, 2010). The picture is bleakest for African Americans, Latinos, and Native Americans, whose dropout percentages are more than twice that of

their white peers (Balfanz et al., 2010). Because much of our experience is with students in urban schools, we have a very real understanding that effective teaching can have a direct influence on a student's life choices.

For six years we both volunteered in California's Chino State Prisons (Bill in the men's, Pérsida in the women's). If you don't yet understand the effect that your teaching can have on students, consider volunteering in a prison. The experience will make you an instant believer in the power of your teaching. In prisons, illiteracy is rampant. Dropping out of high school is not the exception, it is the norm. In fact, three-quarters of state prison inmates are dropouts (Martin & Halperin, 2006). And academic self-confidence is close to nonexistent among prisoners. As soon as inmates discovered we were teachers, many would freely tell us about their academic inadequacies and failures. Many were quick to place the full extent of the blame on themselves.

The cost of school failure doesn't end with the incarcerated. Think about the toll incarceration takes on the children of inmates, including the vicious circle of incarceration. We have both met mothers and fathers whose daughters and sons were serving a prison sentence at the same time that the parents were. What kinds of educational experiences did these men and women participate in? Did they become "listening objects"? Would a better education have made a difference?

Boredom and Engagement

The reasons for dropping out vary depending on the students, but the number-one reason—cited by the dropouts themselves—is boredom (Bridgeland, DiIulio, & Morison, 2006). For most dropouts, becoming listening objects didn't work. When high school students talked about the types of teaching they wanted, they "described their preferred instructional strategies as ones that were hands-on, and that contained opportunities for debate and discussion" (Certo, Cauley, Moxley, & Chafin, 2008, p. 32). In other words, they preferred engagement, or just the opposite of boredom. These same researchers found that one of the negative consequences of a heavy emphasis on broad curricular coverage aimed at meeting academic standards was that "the quality of instruction is less engaging to students" (p. 26).

Several studies and high school reform initiatives cite student engagement as a key ingredient in helping students stay in school and be successful (ASCD,

2010; Bridgeland et al., 2006; Lehr et al., 2004; Ream & Rumberger, 2008; Voke, 2002). Two-thirds of the respondents in the 2009 High School Survey of Student Engagement indicated that they were bored at least daily in high school (Yazzie-Mintz, 2010). According to one student quoted in that survey, "I think that the teachers have a lot to do with how you feel about school. Some teachers do well in engaging you and others never engage anyone" (p. 20).

Making a Difference

Why would we, as authors of a book dedicated to infusing your classrooms with fun, interactive, participatory, and cognitively engaging strategies, dwell on something as depressing as the dropout problem? We do so because we know that for some students, cognitively engaging experiences can literally mean the difference between life and death. In case you think we are exaggerating, think about how dropping out is connected to crime and incarceration. Moretti (2005) estimates, through his meta-analysis, that "a one-year increase in average years of schooling reduces murder and assault by almost 30%, motor vehicle theft by 20%, arson by 13%, and burglary and larceny by about 6%" (p. 6). Bridgeland, DiIulio, and Morison (2006) calculate that a dropout is more than eight times as likely to be in jail or prison as a person with at least a high school diploma (p. 2). The less education that inmates have, the more likely they are to return to prison (Harlow, 2003).

We know that effective teaching makes a difference. In fact, an analysis of student academic growth over time suggests that teacher effectiveness has a greater influence on student performance than race, socioeconomic status, or class size (Sanders & Horn, 1998). The cumulative residual effects of ineffective teaching last for years, even after exposure to ineffective teaching has been followed by exposure to effective teaching (Sanders & Rivers, 1996). In sum, the quality of education a child receives is highly dependent on the effectiveness of that child's teachers.

Whether you work in suburban or urban schools, teaching average performers, gifted high achievers and underachievers, children of immigrants, students with special needs, students who repeatedly experience school failure, or simply your average passive performer teetering between staying in and dropping out, your excellence in effective teaching could be the answer to parents' prayers and the vehicle by which they see their dreams for their son or daughter realized. One teacher can make such a difference.

Total Participation Techniques

If we were given the opportunity to choose just one tool that could dramatically improve teaching and learning, we would choose Total Participation Techniques as the quickest, simplest, most effective vehicle for doing so, because whether you're a student teacher, a novice teacher, or even a 30-year veteran, a total-participation mind-set is essential for ensuring active participation and cognitive engagement by all of your learners, as well as for providing you with effective ongoing formative assessments. *Total Participation Techniques (TPTs) are teaching techniques that allow for all students to demonstrate, at the same time, active participation and cognitive engagement in the topic being studied.* Quite simply, we believe that if you infuse your teaching with TPTs, you'll be a stronger teacher and fewer students will fall through the cracks of our educational system. TPTs can make us all better teachers.

The more we observe excellent teachers teach, the more convinced we become that the common thread in their teaching is that these teachers ensure that students become actively, cognitively, and emotionally engaged in the content being taught. And although we are the first to admit that "there is nothing new under the sun" and that the idea behind TPTs is truly a simple concept, we too often see that the actual implementation of techniques that cognitively engage students is not the norm in many classrooms. This situation is true whether we visit urban schools, rural schools, or well-to-do suburban schools. We find that over and over again, too many teachers continue to fall back into the same old pattern of "delivering" the content while allowing their students to fall into the pattern of delivering passive stares. Too much focus is often placed on the teacher as the distributor of knowledge. A TPT mindset can effectively take the focus off of teaching and place it on what, and to what extent, your students are learning.

Evidence of Active Participation

The use of Total Participation Techniques provides teachers with evidence of active participation and cognitive engagement. They can have a direct effect on the reasons most students drop out or fail to meet their academic potential. For one thing, in a TPT-conducive classroom, students are not allowed to passively hide behind the others who are always raising their hands. All students are demonstrating that they are learning and interacting and—believe it or not—doing so while they're having a great time. You will notice that all the techniques we

present require active processing at deep levels of thinking, and all but a few use interaction.

Manheim Central Middle School

Let's look at the socially tenuous and risk-conscious environment that is often present in a typical middle school classroom. According to Keely Potter, a reading specialist at Manheim Central Middle School in south-central Pennsylvania, "By the time many students hit middle school, disengagement has become a learned behavior—not for all, but for some, especially those that hold little social capital among their peers. Too many are either resistant to engagement, afraid to engage, or afraid to appear *too* engaged. So that's one of the most important things that we can try to undo as effective middle school teachers."

Keely and several other teachers at the middle school made it their priority to infuse TPTs into their daily curriculum. They graciously invited us into their classrooms and are the source of many of the examples we use throughout this book. The best teaching that we have observed involves teachers setting the stage for students to demonstrate cognitive engagement in activities that require time to process, to make connections, and to interact with peers as well as their teachers. We are convinced that the accountability and cognitive engagement that result from TPTs can make a difference between mediocrity and excellence in teaching—and between student failure and student success.

When asked about the role of Total Participation Techniques in teaching, 8th grade English teacher Matt Baker said, "I've completely bought into it." He went on to talk about how he arrived at this acceptance. And he shared his thoughts about his earlier eight years of teaching experience in a high school:

> Student interaction was rare. The idea of kids sharing something with one another, and the idea of kids sitting next to one another, was a foreign concept. The mentality was, you can't ever let them work in groups because then one person does all the work and everybody gets a good grade, and it's not fair. Everybody was in rows; if they were sharing something, it meant they were cheating. But that type of teaching doesn't work. Kids need to talk to one another. They cannot sit in a classroom for a whole period and not process what they are learning with one another.

In contrast, Baker's classroom at Manheim Central Middle School was characterized by a consistent give-and-take among students, and between students and teacher. Students were constantly stopping, pairing up, and then joining other

pairs to form small groups in order to process meaningful and complex concepts being presented through articles and literary works that were relevant to their own lives. Even if students wanted to sleep in Baker's class, they wouldn't be able to. Once a brief reading or content presentation had ended, students were out of their seats demonstrating that they could connect these concepts to their lives and to the impact that these issues have on society. In Baker's classroom, standards were met under the cover of relevance. And students were anxious to share their own take on the issues presented.

Ease of Use

It is not difficult to cognitively engage students, and it doesn't take much work. Sixth grade teacher Meghan Babcock and reading specialist Keely Potter implemented a four-week TPT-infused unit using Kate DiCamillo's book *The Tiger Rising*. According to Babcock,

> Using TPTs, the students were right with us every step of the way. It wasn't a lot of work; it just streamlined my thinking. It put more structures in place. I did the same amount of planning; I just did it in a little bit of a different way . . . even just taking the questions out of the curriculum [or standards] and doing your own little thing makes a huge difference.

According to two-year veteran Courtney Cislo, implementing TPTs is not dependent on the amount of experience a teacher has. All teachers can improve their teaching through TPT-infused lessons:

> I think for teachers that have never taught before, these techniques are so valuable, because you come out of college thinking, "OK, I'm going to do this as my anticipatory set, and then I'll do this, and next I'll read that, and finally I'll close with this." It's all me, me, me, and I, I, I. But the point is not to get your own agenda across; the point is that the students learn. With these techniques, you can gauge, "Oh, they've got it and I can move on," or "I should move more quickly," or "Uh-oh, I need to go back and reteach." It's a critical element for any classroom no matter how much experience a teacher has.

Although implementing TPTs may require that you actively remind yourself to do so, if you stick to it, it becomes a way of thinking. Babcock found that "the more you deliberately implement them, the more they become an expectation." Fifth grade teacher Mike Pyle agrees: "I use them every day throughout every lesson. The more you use them, the more comfortable you become with using them." But he also points out that intentionality is required:

> You really have to be intentional in the beginning of the year, because many students are used to traditional classrooms where they sit in rows. But for me, I have to have them in groups. They have to be sitting in clusters, because they do so much discussing of things back and forth, with face-partners, shoulder-buddies, and as a whole group as well. We do a lot of sharing. For example, in social studies, even when they are reading out of the text, I might have them read a section, and then they have to stop and relay what they learned to their teammates. This back and forth helps them remember what they learned.

TPTs work best in classrooms that practice this constant back and forth, from the text or teachers to students, from students to students, and from students to teachers. By definition, TPTs require active participation and cognitive engagement by everyone.

Additional Thoughts

Before we move on, we need to make a disclaimer. We are still developing in our own use of TPTs. In many instances we have discovered the importance of TPTs the hard way. And we still have days in our university classes when we simply talk too much. We've come to realize that when we are engaged and passionate about a topic, it's easy to get lost in our own talking—even when no one is listening. The wheels in our mind are turning, and the generation of ideas is refreshing (to us) as we talk and talk and talk, and everyone else is thinking about the many things on their to-do lists. One student is focusing on the phone call she just received, another on the laundry he forgot to take out of the washer three days ago, and yet another on life's important questions, like whether or not that mole on her arm is starting to look like her Aunt Martha. This is why we no longer rely on our own good judgment to inject TPTs in our lessons. We have realized that we need safeguards to ensure against getting lost in the talking. So we now write TPTs into our slides, and we type them into our lesson plan agendas in red so that we don't forget to stop talking. And you just may have to do the same thing in whatever way will help you remember to repeatedly pause for student processing, interaction, and the reciprocity that needs to take place between students and students, as well as between teachers and students.

Deep cognitive engagement does not emerge from simply being *talked at*. "Knowledge emerges only through invention and re-invention, through the restless, impatient, continuing, hopeful inquiry human beings pursue in the world, with the world, and with each other" (Freire, 2000, p. 72). We have the ability to make this restless, impatient, continuing, and hopeful inquiry happen in

our classrooms. But it will take a deliberate infusion of opportunities to process, reflect, question, and interact with each other. So this is what we aim to do in this text: to provide teachers with simple activities that make it difficult for students to think about the phone call, the laundry, or that mole that looks like Aunt Martha. Instead, students will be too busy actively processing deep concepts in ways that require that they use higher-order thinking as they actively reflect on, analyze, and defend their judgments in meaningful interactions with their peers.

One student who participated in Potter and Babcock's TPT-infused unit offered this reflection: "I have family problems, and when I come here, it all seems perfect, and it goes away." This is our hope—that through the use of TPTs, students will become so actively engaged and so lost in the learning, they won't have time to be distracted by other things.

Reflection Questions

- During your last lesson(s), how much responsibility for demonstrating cognitive engagement did you place on your students?
- Which of your students would most benefit from your consistent use of TPTs?
- How can implementing Total Participation Techniques make you a better teacher?

EDUCATION

Total Participation Techniques

Making Every Student an Active Learner

Providing easy-to-use alternatives to the "stand and deliver" approach to teaching that causes so many students to tune out—or even drop out—*Total Participation Techniques* presents dozens of ways to engage K–12 students in active learning and allow them to demonstrate the depth of their knowledge and understanding. The authors, Pérsida Himmele and William Himmele, explain both the why and the how of Total Participation Techniques (TPTs) as they explore the high cost of student disengagement, place TPTs in the context of higher-order thinking and formative assessment, and demonstrate how to create a "TPT-conducive classroom."

Readers will learn how to implement field-tested techniques they can use on the spot (e.g., Quick-Draws, Quick-Writes, Chalkboard Splash); with Hold-Up cards (e.g., True/Not True, Selected Response); with movement (e.g., Bounce Cards, Line-Ups, Simulations); and to guide note-taking and concept analysis (e.g., Picture Notes, 3-Sentence Wrap-Up, Debate Team Carousel).

Each TPT is presented in four parts:

- A descriptive overview
- How It Works—step-by-step instructions for implementation
- How to Ensure Higher-Order Thinking—ideas for advancing students beyond surface-level thinking
- Pause to Apply—suggestions for how to adapt and personalize the technique for specific contexts and content areas

Filled with examples from real classrooms, *Total Participation Techniques* is an essential toolkit for teachers at all levels and for administrators who want a model for analyzing lessons to ensure that they are relevant, engaging, and cognitively challenging.

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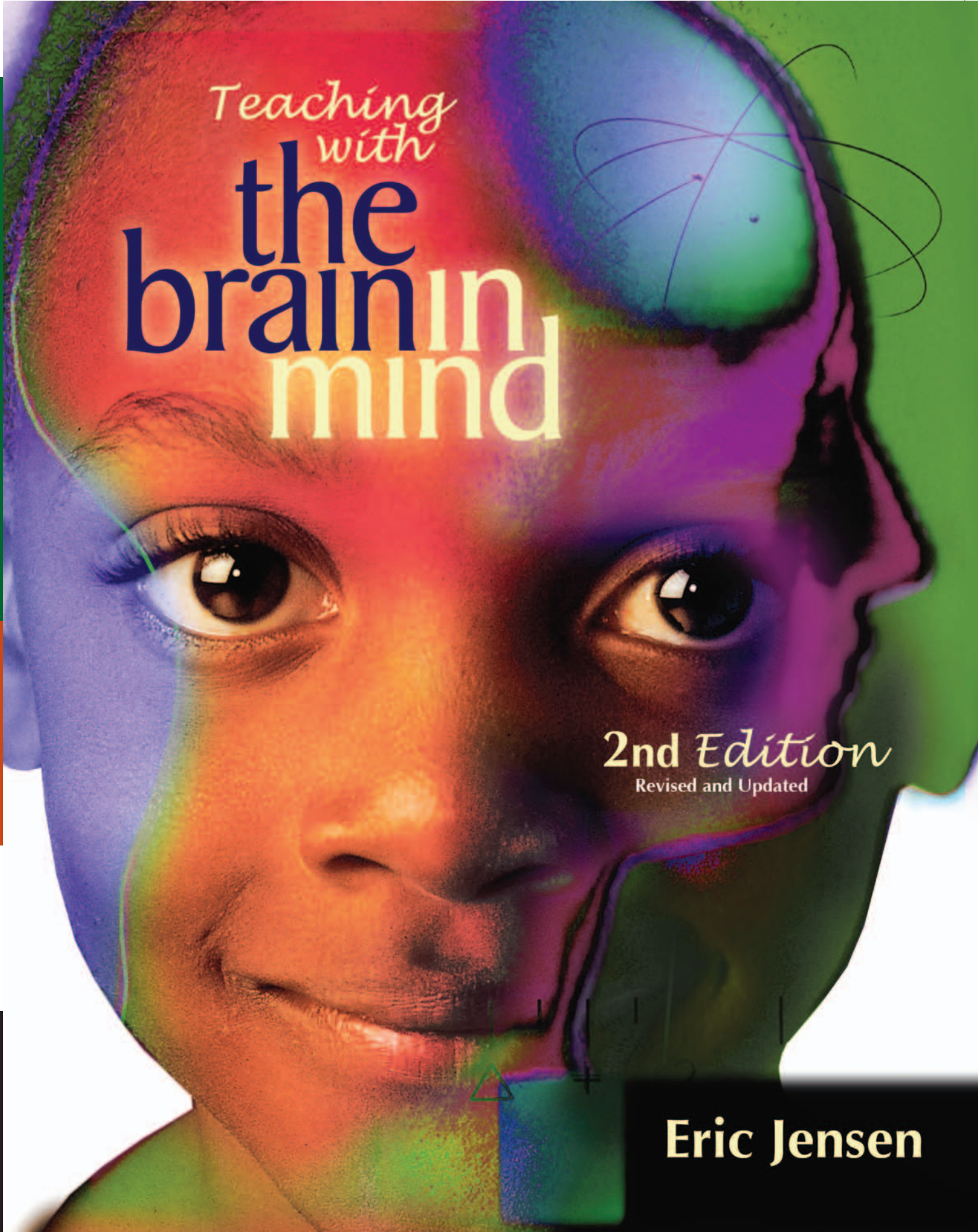
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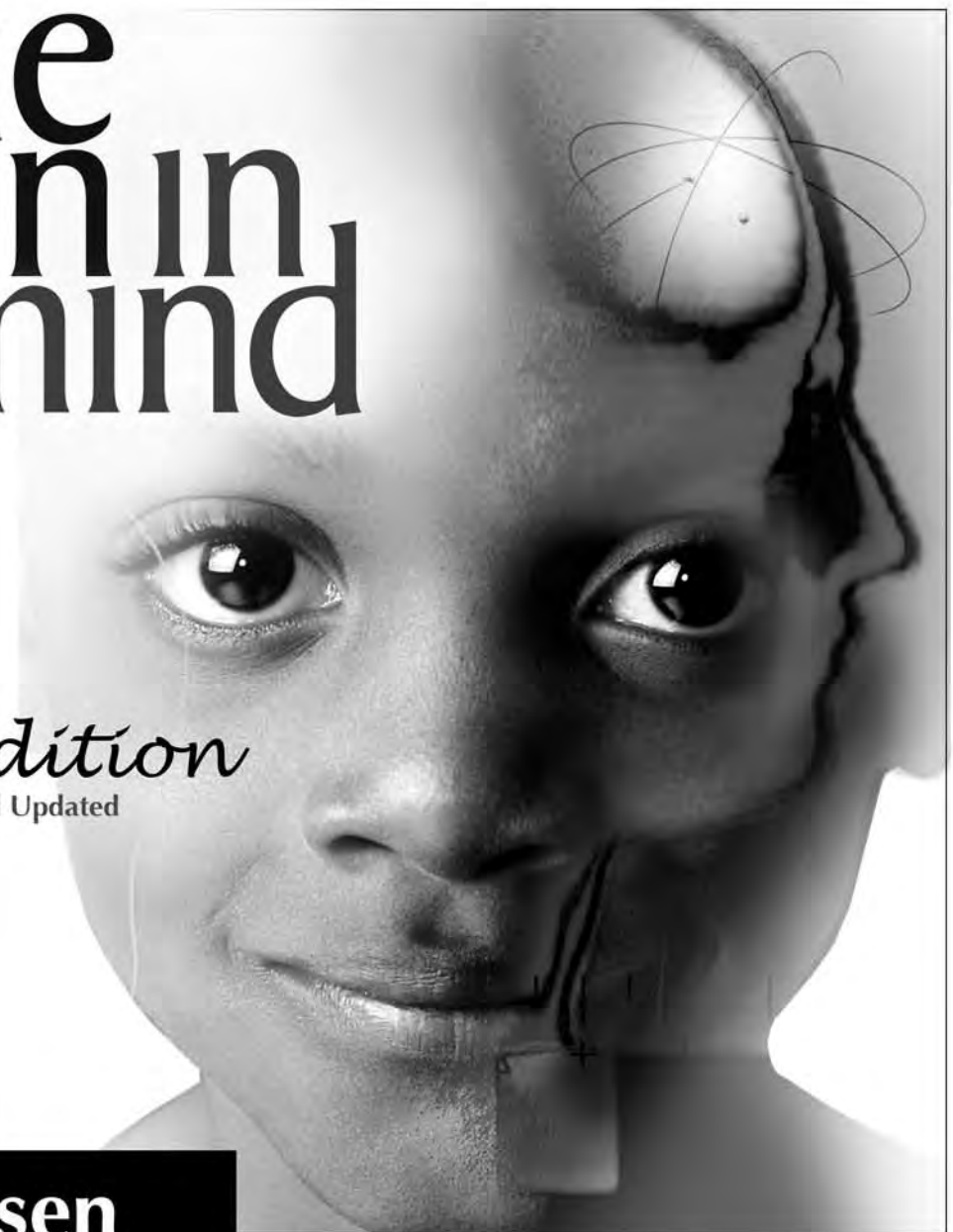

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To all the neuroscientists, psychologists, and researchers who have graciously supported my efforts to learn how we learn and how to communicate it better.

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To my wife, Diane, for her support.

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Preface

For most of human history, the model for learning was simple: if you wanted to learn something new, you either had to figure it out on your own or apprentice yourself to someone who could show you how to do it. Watch, listen, and try out the new skill; this worked for peasants and royalty, parents and children, blacksmiths and monks.

So what changed all that? Massive increases in population began the first change, and the shift from plowshares to factories during the Industrial Revolution brought new models of learning. The notion developed that you could bring everyone together in a single place and offer a standardized curriculum. This paradigm of schooling, exported from Prussia, was popularized by Horace Mann in the late 1800s and early 1900s. Often referred to as the "factory model," it emphasized useful skills such as obedience, orderliness, and respect for authority. Maria Montessori commented that children often felt humiliated in this new role.

A peculiar twist to this paradigm emerged during the 1940s through the 1960s. At the time, the dominant theory of human behavior was influenced by the doctrines of psychologists John Watson and B. F. Skinner, whose thinking went something like this: "We may not know what goes on inside the brain, but we can certainly see what happens on the outside. Let's measure behaviors and learn to modify them with behavior reinforcers. If we like it, reward it. If we don't, punish it."

Considering what we knew about the brain at that time, this behaviorist approach made sense. But now, it's becoming outdated as research uncovers new understandings of how the brain works. Times have changed.

Today it's no longer suprising to see the brain on the cover of national magazines. Society in general has finally moved past the novelty stage of exclaiming, "Wow, the brain!" And collectively we've begun to grasp the endless connections between brain research and everyday life. But articles that appear in the popular media rarely offer the depth of information or point of view that today's educators need. Are the revelations and implications of brain research reaching those who work most with children? I'm not sure that they are.

If you wanted to get your car fixed, would you go to a mechanic? Certainly. If you wanted legal help, would you find an attorney? Of course. And to understand the brain and how we learn, would you go to a teacher? Probably not. Yet every year, millions of parents trust that the professionals who teach their children are knowledgeable about the brain and the processes of learning. In defense of teachers, even neuroscientists still disagree about some of the inner workings of the brain. They also disagree about how much scientific data about the brain can be applied to schools. In addition, many schools of education do not offer programs that connect neurobiology, teaching, and classroom behaviors. It's time they did.

Starting Points

I discovered for myself the concept of brain-compatible learning during a workshop I attended in June 1980. The experience was so positive, and I became so enthusiastic (some would say zealous), that I decided to share my excitement with others. Because I was a teacher, my first response was, "Why don't my own students have this kind of learning experience every day?"

Within months, I cofounded with Bobbie DePorter an experimental, cutting-edge academic program in San Diego, California, called SuperCamp. Our purpose was to use the latest research on learning to enrich and empower young students with life skills and learning tools. I reasoned that if these strategies worked with adults, they could also work with kids. We held our first session in August 1982. It was an immediate success, and we soon offered it in other states and countries. We were flooded with media attention and were featured in more than 200 articles in magazines and newspapers including *USA Today* and *The Wall Street Journal*. Later, stories about SuperCamp appeared on CNN and *Good Morning, America.*

Students in this academic program have a nearly universal positive experience. Years of follow-up have shown that the benefits lasted long after the 10-day program itself (DePorter & Hernacki, 1992). In addition, students' grades and school participation went up, and the students reported greater self-confidence. The teaching methods used at SuperCamp have been evaluated and shown to be highly effective (Benn, 2003). The experiment we began decades ago in Southern California is now an international fixture, with more than 40,000 graduates.

In the publishing industry, the brain-based teaching revolution officially began with Leslie Hart's groundbreaking 1983 book, *Human Brain, Human Learning.* This book invited readers to make links between what we know about the brain

and how we teach. Instead of leaving it all to sociologists, psychologists, and well-meaning educators, Hart suggested we turn to biology. How exactly *is* the brain best designed to learn? This very powerful question began a lasting paradigm shift that is continually spurred by new technology, practical teachers, and the mushrooming ranks of neuroscientists, who now number more than 30,000 worldwide.

Changing Brains, Changing Minds

The first edition of *Teaching with the Brain in Mind,* published in 1998, introduced thousands of educators to links between brain research and classroom success. This revised, second edition takes a renewed and more critical look at the research connections and examines the fruits of success. Educators throughout the world credit brain-based teaching and learning with helping to raise teacher morale, increasing teacher retention, and improving student achievement. I have seen, felt, and heard firsthand the difference it makes. Students of all backgrounds and ages, with every imaginable history of failure, can succeed and have succeeded with a brain-based approach to teaching and learning.

Although it is not a panacea, this approach provides some important guidance for decision making. The brain-based revolution has already changed school start times and influenced discipline policies, assessment methods, teaching strategies, budget priorities, lunchroom choices, classroom environments, the use of technology, school architecture, and even the way we think of the arts and physical education. Brain-based learning is no longer a prediction or a fad; the change has already occurred in thousands of schools throughout the world.

Learning in ways that are compatible with the way humans naturally function is an approach that will stand the test of time. Yes, it may attract some criticism, spurred by the kind of defensive reaction that is typical among those who wish to hold on to the status quo. But if this paradigm is solid, as I believe it is, more and more people will come to realize that if you want to understand human learning, you'd better understand the brain.

Where Do You Start?

To get started, become more "consumer literate" about brain research. Learn some of the major terms and the best sources of serious research. Learn the names of prominent people who are doing the work that is most relevant to educators. Here are some of the major technical journals that are revealing new discoveries monthly:

- *Journal of Neuroscience*
- *Learning and Memory*
- *Brain and Cognition*
- *Brain Research*
- *Nature Neuroscience*
- *Brain and Behavior*
- *Journal of Cognitive Neuroscience*

Remember, one journal or one scientist's opinion is not enough. Dig for longitudinal studies that examine diverse populations and have sufficient sample sizes. Your own questions ought to be, "What's the origin of this idea? Is it still just theory? Where's the research on it?" You'll want to know, "What was the scientific discovery that illuminated the theory? What clinical trials have

been done? Is there any evidence of successful applications in the classroom?" Don't jump to conclusions or infer something that is not stated. You may want to e-mail the scientist who did the study to find out more about it. Avoid any inferential leaps and be a critical student of the results. Here's the process I use:

- Begin with basic research. (What happens in the brain and our environment?)
- Look for clinical trials (animal and human studies) conducted under controlled conditions.
- Find educational research conducted in real classrooms. (This approach is usually but not always possible.)
- Try out the concept or strategy for yourself.

Typically, if an idea is published, someone's already tried it somewhere. But it's good to be sure. Don't embrace any idea just because someone, somewhere has labeled it as "brain based." We all want solutions to educational challenges, but we must be careful about how we apply new discoveries.

Other Considerations

First, it's unfair to expect neuroscientists to present educators with the "holy grail" of learning. That's not their job, and most of them have purposes other than education to serve. Furthermore, many paradigms have been shaken as a result of an insight from outside the field. For example, the traditional view of neurobiology is very Newtonian—a physical, matter-based explanation. The new view, the one I embrace, is equally influenced by quantum mechanics—the influence of energy and particle waves on ourselves and on systems. Any researcher, teacher, or author who thinks he or she can explain human learning and behavior at only a micro level, by describing synapses and naming neurotransmitters, is almost 100 years out of date. The newer model shows that life forms are strongly influenced by more forces that we do not yet fully understand.

Second, remember that the learning is new, the field is young, and mistakes will be made. Many other breakthroughs will follow, and some of them *do* belong in the classroom. All of us are in this together, learning and growing as we make mistakes. If you want to move things forward in your classroom or school, you just might be the best person to do it. If the potential gain is good and the potential loss is acceptable, try out new ideas.

Third, use thoughtful action learning to test some of your own ideas. We need *more* action research, not less, and you can begin in your own workplace. The usual cautions apply. Avoid biases in the study design. Start small and keep track of your results. Tell your students what you're doing. Talk to parents about the brain, and make sure other staff members know about the information you gather. Get or give administrative backing, which helps generate the long-term resources and support needed for transformation.

Finally, begin the process with this book, which can serve as a study guide and will help you sort theory from fact. Again, brain-based learning is here to stay. You can bet it will continue to affect nearly every aspect of education, including teaching strategies, discipline policies, the arts, special education, curriculum, technology, bilingual programs, music instruction, learning environments, staff development, school design, assessment, and even organizational change. The more we

understand about the human brain, the more we can apply it in our schools. Anyone who thinks this field is irrelevant is saying that the brain itself is irrelevant. Nothing could be more wrong. Understanding and applying relevant research about the brain is the single most powerful choice you can make to improve learning.

The "brain train" is leaving the station. Are you on board?

Introduction

The revolution is being televised. Countless stories on the Discovery Channel and PBS have revealed exciting new insights about the brain. Mainstream broadcast media such as ABC, NBC, CBS, and CNN and publications such as *Time* and *Newsweek* have carried stories about recent brain discoveries. Dozens of books, videos, journals, newsletters, and publishing companies have documented this burgeoning field.

Educators worldwide have taken notice, and models of how we educate are being transformed. With brain-based learning now an established paradigm, if a far from universal one, it makes sense to explore some basic questions. First, how strong and reliable is this field of brain-based learning? Second, how do we know what we know about the brain? Can we apply laboratory findings directly in a classroom? The themes implied by these questions are simple; they are about answering the critics of brain-based education, understanding the sources that underlie it, and reviewing the reliability of evidence.

Let's begin with two fundamental facts. First, students who attend school from kindergarten through secondary school typically spend more than 13,000 hours of their developing brain's time in the presence of teachers. Second, their brains are highly susceptible to environmental influences—social, physical, cognitive, and emotional. And, more important, their brains *will be altered* by the experiences they have in school. As educators, we

must—ethically, morally, and opportunistically—pay attention to how we ask students to spend time with us. These concepts are fundamental to education, yet we often take them for granted.

Answering the Critics

Despite the mounting evidence that supports brain-based learning, some critics say, "It's no big deal; there's nothing new" or, "We don't know enough to do anything." Some even say, "Nothing will change." I wonder if those same critics would have had similar things to say at Kitty Hawk in 1903, when the Wright brothers flew the first airplane only 100 yards: "It's no big deal," "It won't change anything." We are now at the doorstep of the same kind of revolution. Instead of a mechanical one fueled by new modes of transportation, it's one of neurons, chemicals, networks, and wonderful, truly historic discoveries. For the first time in human history, we are beginning to understand how our brain works. Yes, maybe we are just at the stage of the Wright brothers' first flight. But it's a great time to be alive.

Shortly after new "brain-based" thinking began to make its way into the mainstream, critics began finding fault. For example, John Bruer, president of the James S. McDonnell Foundation, noted that "well-founded educational applications of brain science may come eventually, but right now, brain science has little to offer education practice or policy" (1998, p. 14). Armed with selected willing scientists and selective studies, the critics (Bruer, 1998, 1999; Bailey, Bruer, Symons, & Lichtman, 2001) have attempted to invalidate the integration of brain-based understandings into schools. Some claim that it's still too early and we don't know enough for sure. But if we waited for irrefutable evidence on *everything* we did in education, we'd need to stay at home.

Some people are simply "early adapters," and others, more skeptical, are "late adapters." By nature, critics are typically late adapters. There are also those who have more personal agendas to protect, such as a pet program, an institution, or a foundation that they fear is being threatened. Having said this, some critics have raised valid points; others have raised what I see as unwarranted objections. Here are some of the criticisms and my responses.

Criticism: Many "pop" writers were not scrutinizing the sources of their information about the brain.

Response: I agree. The general news media are not always reputable sources of information about the brain. Nor is one scientist, one critic, one famous person, or a single study; anyone seeking reliable information must consider multiple credible sources. For example, I first consider material from the basic neuroscience sources, then look at clinical studies if they're available, and finally locate reports of educational practices or action research to confirm the practical applications. Readers of research on the brain should look for significant sample sizes, blind studies, well-designed experiments, and plausible conclusions. For every source that appears in the References section of this book, there are a half dozen that I left out, just to keep the length of the list reasonable. In short, what I state in this book is solid information.

Criticism: There's nothing new here—all this brain-based stuff is a bunch of hype.

Response: I strongly disagree. Whenever someone claims there's nothing new, I reply with this abbreviated list of "Top 10 New Discoveries About

the Brain," all of which have come to light during the past 10 years:

1. We have discovered that the human brain can and does grow new neurons, that these neurons become functional and are highly correlated with memory, and that this process can be regulated.

2. We have discovered that there is no stable baseline for stress. Unlike other systems of the body, which usually revert to a prior, healthy state after suffering trauma (a process called homeostasis), the brain responds to extended periods of stress by developing a new, less healthy baseline. These "allostatic"—or adjusted—stress loads are becoming increasingly common and are associated with serious health, learning, and behaviorial risks.

3. We have discovered that aggressive behavioral therapies, new drugs, and revolutionary stem-cell implantation can be used to influence, regulate, and even repair brain-based disorders, including fetal alcohol syndrome, autism, retardation, strokes, and spinal cord injury.

4. We have discovered that "teenage behavior" may result from a complex array of fast-changing factors—not just hormones.

5. We have discovered that genes are not fixed. Evidence suggests that both gene expression and genetic makeup can be altered.

6. We have assembled tomes of evidence to support the delicate interplay between emotional states and cognition.

7. We have confirmed that music can affect cognition.

8. We have confirmed that software programs that use brain plasticity to retrain the visual and auditory systems really can improve attention, hearing, and reading ability.

9. We have discovered that exercise is strongly correlated with increased brain mass, better cognition, mood regulation, and new cell growth.

10. We have discovered that humans with implanted "brain chips" can operate thought-controlled mechanical interfaces; in other words, they can guide a robotic arm merely by thinking. The implications of these findings could revolutionize life for the physically disabled.

Anyone who says there's nothing new in brain research must have been living in a cave. The past 10 years have been the most explosive and hopeful in the entire history of neuroscience.

Criticism: Research findings are being misinterpreted; unwarranted leaps are being made.

Response: This criticism is often valid. The best-known example of this kind of extrapolation is hearing about the Mozart effect and then concluding, for example, that all music makes you smarter or all music is good for all students. Another is making an unwarranted leap from the understanding that new learning creates new synapses to the conclusion that more synapses must necessarily be a good thing. Untrue. Children with Fragile X syndrome actually have too many synapses. The best advice here is to read the studies and *wait for corroborating studies* before hopping onto a bandwagon. In addition, just because a study suggests that a certain instructional strategy may work well, the possibility remains that other strategies also work as well or better.

Mysteriously, most brain-based education books have not addressed the kinds of revolutionary discoveries found in my Top 10 list. Books on everything from "brain-based math" to "brain-based

leadership" focus on the trivial, not the fundamental, and unfortunately, some of these books are embarrassing to the critical reader and educator. Having said that, I'll add that an author *is warranted* in drawing practical conclusions when there's little or no downside risk and the conclusions are reasonable.

Criticism: Some of the brain studies cited involved animals, not humans.

Response: This is true, but not a definitive reason to discount those studies' findings. Animal studies *do* offer much that we can transfer and learn from. Lab experiments with rats or primates are clearly more credible than those with sea slugs or fruit flies. Some studies may never be done on humans for ethical reasons. And although obvious differences distinguish humans and rats, science tells us that there are more similarities than differences (Cenci, Whishaw, & Schallert, 2002).

Overman & Bachevalier (2001) have studied the question of animal models versus human models, designing and testing learning trials in which humans and animals negotiated comparable mazes. They concluded, "In most instances . . . the procedures of animal testing can be directly applied to children . . ." (p. 120). This is not a blanket justification for applying the results of all animal studies to human situations. But neuroscientists study Norway rats and macaque monkeys for a reason—these animals have significant neuroanatomical similarities compared to humans. Yes, whenever possible, human studies are ideal, ensuring greater reliability and confidence in the results. But, as noted, for ethical reasons, it's not always possible to conduct human studies.

Criticism: The field of brain-based education is not "brain based" enough; many ideas are actually from psychology, sociology, or psychiatry.

Response: The error in thinking that it's not "brain based" *enough* is simple: it's *all* about the brain. The disciplines of psychology, biology, sociology, psychiatry, and pedagogy are all concerned, to some degree, with understanding human behavior. And, increasingly, those looking to understand human behavior are looking at the brain. Most of the newer books in these fields include chapters on brain function, anatomy, or processes. We cannot explore learning and the brain without having our inquiry overlap those of these other disciplines. Besides, where's the wisdom in studying ways to improve student learning without considering issues that affect it, such as nutrition, racism, poverty, trauma, and stress?

A slightly different problem occurs when some "brain-based education" presenters simply recycle their favorite pedagogy—such as that of Dewey, Piaget, Montessori, Kolb, Hunter, Lozanov, McCarthy, or Gardner—with a brain-based spin. "Brain-based" rightfully means that the actual work and conclusions were based on recent findings about the brain. Dewey, Piaget, and Montessori have much to offer, but their models might more correctly be called "brain compatible," meaning that the work and conclusions are *aligned with* or *compatible with* recent brain research. Besides, if the work of these giants was valid before, it's still valid now; we don't need to look for proof in the latest brain scan.

For the critics of brain-based learning, my message is this: you are fighting a losing battle. Thousands of neuroscience studies are being

produced every year, and some of them *do* apply to the classroom. In the classroom are millions of teachers who need real-world solutions today, not 50 years from now. Educators are practical; they will try out almost any reasonable, ethical strategy, but they will keep using it only if *it works*. And thousands of educators are already using brain-based strategies with great success. To the critics in an office or a laboratory I say, "Get out in the real world—and teach for a week!"

One developmental neuroscientist recently stated, "If the likely risk-reward ratio is good, I see nothing wrong with classroom teachers trying out new ideas straight from neuroscience" (Jernigan, 2003). Sufficient studies support the things that I argue for in this book, and the references are solid. Many teachers are already doing action research to find out for themselves what works and what doesn't. They know brain-based teaching works.

I believe that over time the ideas and approaches I advocate in this book will become the standard. Why? Because when we teach in ways that make sense for the brain, that match how we were designed to learn, everyone wins.

Making Sense of Brain Research

A new breed of science of the brain is developing: educational neuroscience. No current journal carries that title, but one will probably appear soon. How else will we be able to integrate fields like psychiatry, sociology, nutrition, learning, emotions, and memory into a single social construct? Today dozens of new disciplines serve as examples of things to come. They have multiplied within the thriving biological community and find expression in journals such as *Social Neuroscience, Biological Psychiatry,* and *Nutritional Neuroscience.* Education will soon be part of this trend. The key to introducing and integrating these new fields is visionary researchers with a multidisciplinary approach.

The prevailing belief is that information is doubling in our society about every 18 months. In the field of neuroscience, the pace seems even faster. In short, we are learning about the brain at an unprecedented rate. It's generally acknowledged that research more than two years old is already "old information." In the coming years, we can expect new and more accurate technologies to further illuminate the brain's mysteries.

Even with all the exciting new research, it's easy to understand why many educators were turned off by the early attempts at applying it in the classroom. Typically, select and qualified "translators" of brain research shared their knowledge with staff developers and administrators who, in turn, set up professional development sessions to share the translated knowledge with classroom teachers. If these professional development sessions used role modeling and other effective techniques, the teachers often had reactions like "Wow! This is great stuff!" But if "application of brain research to the classroom" was presented as dry science, the responses were more along the lines of "Ho-hum. Tell me something new." Some educators got such a shallow, trivialized version of (mis)understanding—advice like "put water bottles in the classroom"—that it was difficult to have a serious conversation about the value of the research.

Let's remember, too, that errors of omission, commission, or enthusiasm come with every major paradigm shift. Educators have also seen laughable "translations" of learning styles, cooperative learning,

multiple intelligences, and differentiated instruction. Early in any movement, it's tougher to separate the wheat from the chaff. But it's important to stay the course and consider recent brain research as part of the major rationale for today's educational practices. Why? Because *all learning involves the brain*. The more we can understand how the brain naturally works, the better we can structure educational practices to align with that functionality.

Here's a simple example. A good bit of evidence from studies of both animals and humans suggests that 30 minutes of vigorous exercise at least three times a week can contribute to enhanced mood, increased brain mass, better circulation, more brain cells, and improved cognition (Adlard, Perreau, Engesser-Cesar, & Cotman, 2003; Churchill et al., 2002; Markakis & Gage, 1999; Sutoo & Akiyama, 2003; Tomporowski, 2003; Van Praag, Kempermann, & Gage, 1999). This research suggests that schools that eliminate physical education programs may be more than shortsighted; they may be reckless and hurting their own causes.

Here's another example. Each year, tens of thousands of students are helped by a computer software program called FastForWord, which helps them develop phonological awareness (Temple et al., 2003). Several neuroscientists developed this educational program as a direct result of brain research.

Yet, despite all that we're learning from brain researchers, school boards and shortsighted policymakers continue to scream "budget cuts" and eliminate the things that can make the biggest difference. If your physical education program is ineffective, don't throw it out, fix it. When done right, PE can improve health, increase brain mass, reduce the likelihood of childhood-onset diabetes and teen depression, boost neurogenesis, and provide a host of other benefits. I know of no other subject or discipline that can make those claims. Choosing to keep a physical education program is choosing well—*with the brain in mind.* Although every school decision does not need to be made by consulting recent studies from neuroscience, we should be paying more attention to what the research says. Brain-based learning is a force to be reckoned with, and it's here to stay.

1

Meet Your Amazing Brain

Key Concepts

- Basic brain anatomy
- How the brain changes over time
- Cooperation and competition in the brain
- How the brain learns

You've heard for much of your life that the human brain is amazing. It's true. That soft, squishy blob between your ears—the blob that runs your life—*is* pretty amazing. Every day in classrooms around the world, teachers are amazed by what the human brain can do. Because exploring *all* the facets of the brain is beyond the scope of this chapter, we'll focus on three relevant and essential features:

- *Adaptability.* The brain changes constantly.
- *Integration*. Brain structures compete and cooperate.
- *Sophistication*. The brain is highly complex.

These themes help to establish the nature of the brain: it is constantly working; it operates with a high level of structural cooperation; and seemingly simple processes, like learning to read, are actually highly complex. This dynamic and versatile structure is unlike anything else on earth. That may be why we are so attracted to the study of the brain—it evokes both wonder and curiosity. At the simplest level, the brain is an

organ that we are all born with, and we'll explore that concept first. But the brain is much more than an anatomical structure; it is also an active processing center, always at work.

The Raw Material

To begin learning about the brain, consider a grocery store's produce and dairy departments. In shape, the brain closely resembles a head of cauliflower. In size, it's similar to a large grapefruit or cantaloupe (see Figure 1.1). The brain is mostly water (78 percent), fat (10 percent), and protein (8 percent). From the outside, the brain's most distinguishing features are its convolutions, or folds. The wrinkles are part of the cerebral *cortex* (Latin for "bark" or "rind"), the brain's outer covering. The cerebral cortex is about as thick as an orange peel. The folds allow the covering to maximize its surface area (have more cells per square inch). In fact, if the cortex were laid out flat, it would be about the size of an unfolded, single page from a daily newspaper. Remember, the brain is only a grapefruit-sized organ. It's general texture is about the same as soft butter, but some parts are as gooey as raw eggs or yogurt.

Brains have both neurons and glial cells (see Figure 1.2). The most well-studied brain cells are *neurons*, which consist of a cell body with fingerlike input extensions, called *dendrites,* and a single output, called an *axon*. Neurons have different shapes depending on the part of the brain they're in and their function. There are many types of glial cells, each with different functions. Recently, scientists have discovered that glia—also known as interneurons—are not, as once thought, just a "support" or "housekeeping" cell, but are quite important in brain development, function, and growth.

Figure 1.1

The Human Brain



Estimates vary on the actual number of neurons and glia in the human brain. One researcher who has done detailed studies in this area, William Shankle of the University of California–Irvine, asserts the human brain has about 30 to 50 billion neurons. His studies (Landing, Shankle, Hara, Brannock, & Fallon, 2002) also show a 20 to 40 percent variance among humans, meaning the real numbers vary by *billions* from one person to another. No wonder differentiation in teaching makes sense!

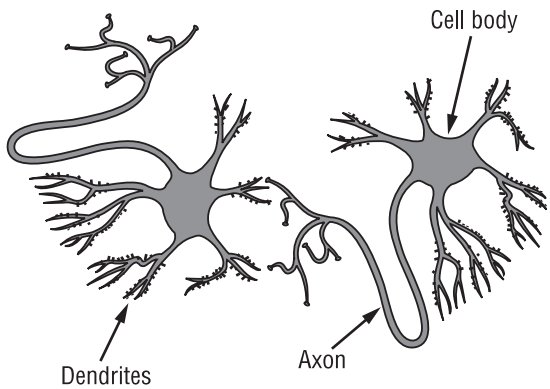
A more mainstream view is that we're born with about 150 to 200 billion neuron cells and keep about 100 billion of them. (The rest disappear for various reasons, as explained later.) By the time we're adults, we also have about 500 billion to 1,000 billion glial cells. For the sake of comparison, a fruit fly has 100,000 neurons, a mouse has 5 million, and a monkey has 10 billion. A single cubic millimeter (1/16,000th of an inch) of human brain tissue has more than 1 million neurons.

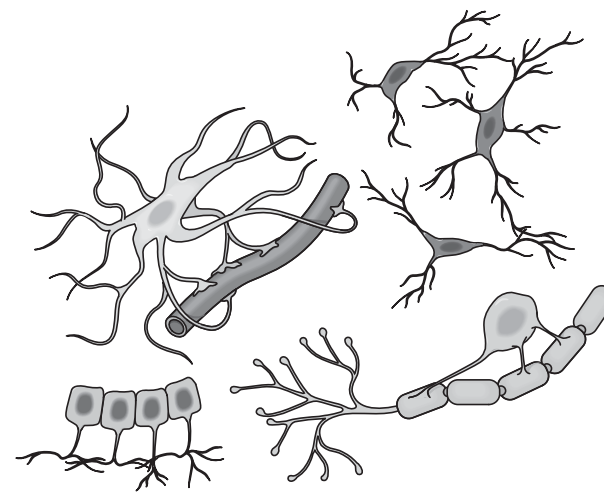
Humans have large brains relative to body weight. The adult human brain weighs about three pounds (1,300–1,400 grams). But would a

Figure 1.2

Neurons and Glial Cells

Both neurons and glial cells integrate neural outputs, release transmitters, have long-range signaling, can enwrap synaptic terminals, and are connected by gap junction.





Typical neurons

Neurons receive stimulation from their branches, known as dendrites. They communicate with other neurons, creating a network with millions of other by firing a nerve impulse along an axon.

Various types of glial cells

Glia carry nutrients, speed repair, provide myelin for axons, support the blood–brain barrier, and may form their own communication network. They are also involved in neurogenesis.

bigger brain make you smarter? That's unlikely. A sperm whale's brain weighs about 17 pounds, or 7,800 grams.

The brain's various parts and its nerve cells are connected by nearly 1 million miles of nerve fibers. The human brain has the largest area of uncommitted cortex (with no specific function identified so far) of any species on earth. This gives humans extraordinary flexibility for learning.

Scientists divide brain areas into lobes (see Figure 1.3). The *occipital lobe* is in the middle-back area of the brain, and it's primarily responsible for vision. The *temporal lobes* are located above and around the ears on the left and right sides of the brain. These areas are primarily responsible for hearing, memory, and language. Connect visual areas to language areas, and you can "see" what you hear and say. That's part of the essence of reading: high visual-auditory connectivity. The *frontal lobe* is the area around your forehead. It's involved with purposeful activities like judgment, creativity, problem solving, and planning. It also holds short-term

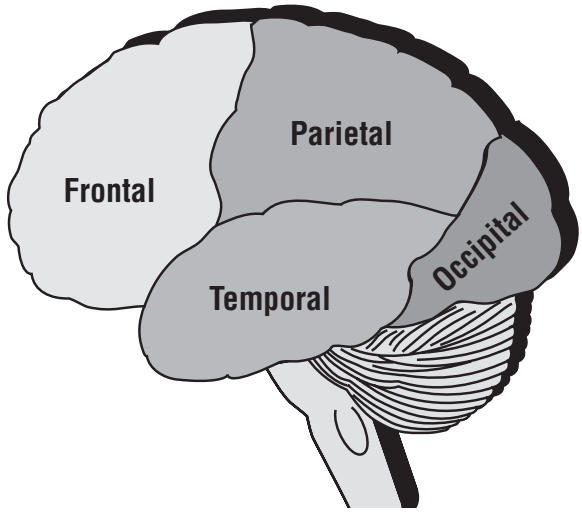
memory so you can juggle two or more thoughts at once. The *parietal lobe* is at the top and back areas of your head. Its duties include processing higher sensory and language functions. It also has a cool tie-in with the Sci Fi Channel in that it's highly active in subjects who claim to have seen hallucinations or UFOs, or have had "near death" experiences.

The territory in the middle of the brain includes the *hippocampus, thalamus, hypothalamus, cingulate, basal ganglia, fornix, striatum,* and *amygdala* (see Figure 1.4). You could call this area both the chemistry lab and the drama department of the brain. Sometimes known as the *limbic system,* it represents 20 percent of the brain by volume and is partly responsible for emotions, sleep, attention, body regulation, hormones, sexuality, sense of smell, and production of many brain chemicals. However, noted neuroscientist Joseph LeDoux (1996) contends that there is no real "limbic system," only specific structures that process emotion, such as the amygdala. In either case, this middle area of the brain, along with the parts of the cortex, helps you feel what you feel about the world.

The location of the brain area that allows you to know that you are "you" (consciousness) is disputed. It may be dispersed throughout the cortex, or it may be in the thalamus, or it may be located near the reticular formation, a structure atop the brain stem (Crick, 1994). You'd think that this part of the brain would be easy to find—just cut away brain areas until a person loses awareness, right? But it's not just a simple case of Jack the Ripper meets the Nutty Professor. Remember, the second essential feature of the brain is integration, or strong connectivity. That means many areas connect to and influence other portions, so that specific sections of the brain may contribute separately and collectively to your sense of self. In short, one critical quality that makes the brain work so well is its degree of connectivity, not its individual structures.

Figure 1.3

Main Areas of the Human Brain



Adaptability: The Constantly Changing Brain

Not long ago, the prevailing view of the brain was that it remained fairly constant throughout a person's life. We knew that the brain was smaller in childhood; once it reached maturity, we thought it remained more or less stable over many years before beginning to deteriorate somewhat with age. This view of a "static" brain is decidedly out of date. Yes, the most amazing new discovery about the brain might be that *human beings have the capacity and the choice to be able to change our own brains.*

It's now understood that environmental events at one level of an organism (molecules, cells, organs,

systems, individual behavior, society) can profoundly influence events at other levels (Cacioppo, Berntson, Sheridan, & McClintock, 2001). This finding suggests that your experiences and the actions you take can lead to changes in your brain. These changes, in turn, change you. We also know that your life influences your genes at the same time that your genes regulate your life. Researchers have found evidence of social influence on both genetic constitution (Reik, Dean, & Walter, 2001; Wilson & Grim, 1991) and genetic expression (Suomi, 1999)—meaning the substance of the genes and how the genes function. New evidence suggests that environmental triggers, even things like stress (Foster & Cairns, 1994), can "reprogram" our genes. In short, we can and do influence our own genetic material; this is a profound revelation!

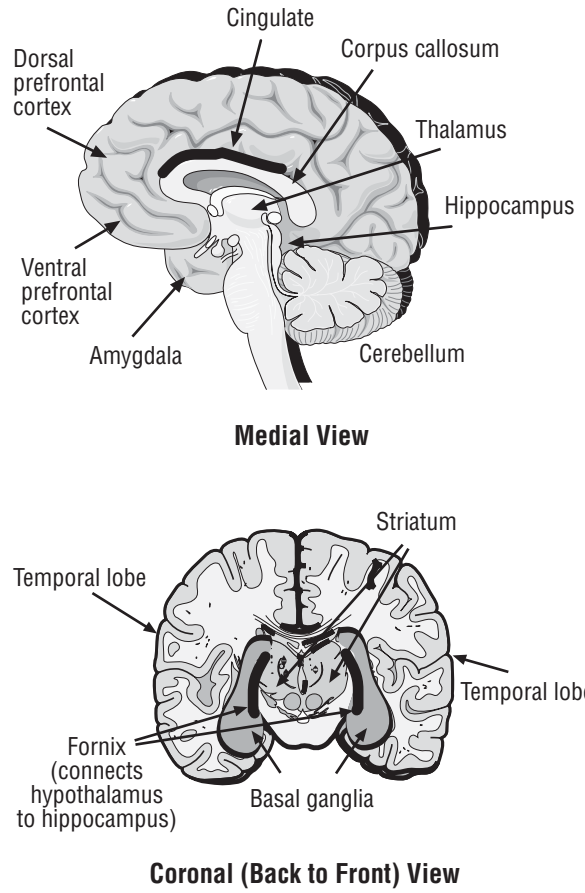
The result of the various interrelation of humans shaping environments and environments shaping humans is that there is no fixed human brain; it is always a work in progress. Another way to put it is that your brain is dynamic and constantly changing as a result of the world you live in and the life you lead. Whether you are 2 or 92, your brain is a cauldron of changing chemicals, electrical activity, cell growth, cell death, connectivity, and change.

This dynamism makes it very challenging to get clear data on what's happening in the brain. From birth to the teenage years, the brain undergoes a fourfold increase in volume (Johnson, 2001). Infants are born with roughly a trillion connections (synapses) already in place. The infant's interaction with his or her environment helps create many additional connections within the cortex. At the same time, the genetic process called "pruning" eliminates countless unnecessary connections. Throughout life, your brain is losing connections at the same time it is creating new connections. It's a bit like going out shopping for new clothes at the same time that someone is raiding your closet back at home. This ongoing refinement results in a highly adapted, highly specialized brain (see Figure 1.5).

Longtime neuroscience dogma held that the mammalian brain couldn't grow new brain cells, and mainstream science was absolutely certain that new brain cell growth (neurogenesis) was impossible in

Figure 1.4

Medial and Coronal Views of the Brain



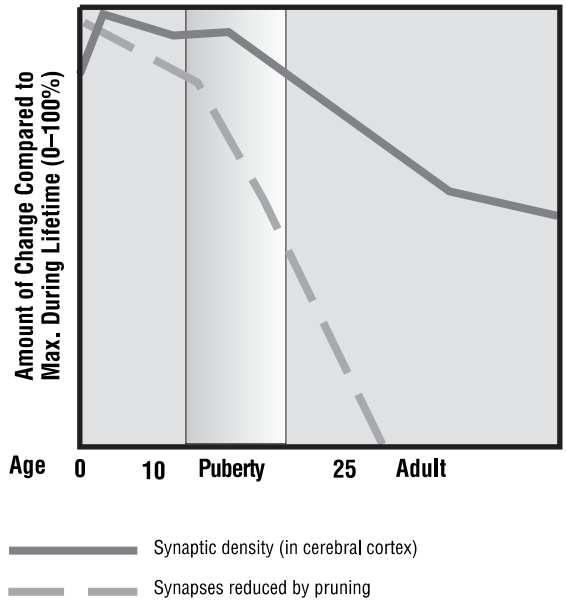
the human brain. However, the groundbreaking research of Kempermann, Kuhn, and Gage (1998) showed not only that humans *do* grow new neurons, but also that these new cells survive and become functional and integrated. Just as important, a follow-up study (Van Praag et al., 1999) found that humans can influence the rate of new brain cell growth. In fact, researchers have identified more than 15 factors that either enhance or impair neurogenesis. Again, the complexity of the brain comes into play. Although factors such as excess stress can inhibit growth, exercise can encourage it, as we'll see in later chapters. All of this paints a complex picture of what exactly you have in your brain at any particular moment.

Inside your brain, cells are being eliminated at the same time new cells are being born. You lose some brain cells every day through attrition, decay, and disuse, and we know that certain behaviors affect the loss of brain cells. For example, although there's no evidence that an occasional glass of wine or beer destroys brain cells, it's clear that alcoholism does substantial damage (Eckardt, Rohrbaugh, Rio, Rawlings, & Capola, 1998). Scientists differ on what your daily net gain or loss in brain cells might be. But even if you lose a half-million neurons per day, it would take centuries to literally lose your mind.

Some of the most interesting recent research on the brain's adaptability shows how activities can influence the actual mass and organization of the brain. For example, playing a musical instrument consistently over time can literally remap the brain's "real estate." It's as if there's a big "Texas land grab" going on. Neuroscientist Arnold Scheibel of UCLA did an autopsy on a renowned violinist and found that the area of the brain responsible for hearing reception (layer four, auditory cortex) was twice as thick as normal (Diamond & Hopson, 1998). Michael Kilgard found that areas of the auditory cortex increased in size with specific auditory trainings over time (Kilgard & Merzenich, 1998). It's as if the brain said, "We need more space for what you're doing. We'll just use this nearby spot." Another study found that the cerebellum, the brain structure that contains almost half of the brain's neurons and that is also involved in keeping beat and rhythm, was 5 percent larger in musicians than in the general population (Gaser & Schlaug, 2003; Hutchinson, Lee,

Figure 1.5

Constant Change in the Brain from Birth Through Adulthood



Source: Based on data from Huttenlocher & Dabholkar (1997) and Bourgeois (2001).

Gaab, & Schlaug, 2003). These studies and others provide evidence that many years of specific fine-motor exercise prompts brain reorganization and nerve growth.

What's truly amazing is that this constant reorganization of the brain is always purposeful—driven not by a mysterious signal but by real-life use and disuse. The brain has no single command center; it's a system of systems governed by life experience and by complex processes, which appear to be both variable and fixed, random and precise. Your constantly changing brain is shifting your moods, your thinking, and your actions through countless electrical and chemical changes. Each of these changes results in a shifting state of mind.

In summary, the brain is a dynamic, opportunistic, pattern-forming, self-organized system of systems. That's a mouthful. It's also mind-boggling. So why is this new view of the brain so important to you, as a teacher? Because it reinforces that every student in your classroom has the capacity for change. Yes, genetics plays a part in who students are and how they behave and reason, but each of them can change. Even your most frustrating student can improve. Now that should be the best news you've gotten all day.

Integration: How Brain Structures Cooperate and Compete

How does your brain cooperate with itself? Brain cells are "connected" to other brain cells by physical structures such as axons, which are extensions sent out by neurons. Brain areas and structures can communicate via glial cells too. And certainly the bloodstream creates a common network, circulating brain chemicals known as *neurotransmitters* (e.g., serotonin, dopamine, and acetylchoine) and hormones known as *neuromodulators* (e.g., cortisol and adrenaline). Information is also communicated through the immune system and "messenger molecules" known as *peptides.* It's fair to say that very little happens in one part of the brain without some kind of potential effect in other areas. It's just a matter of degree.

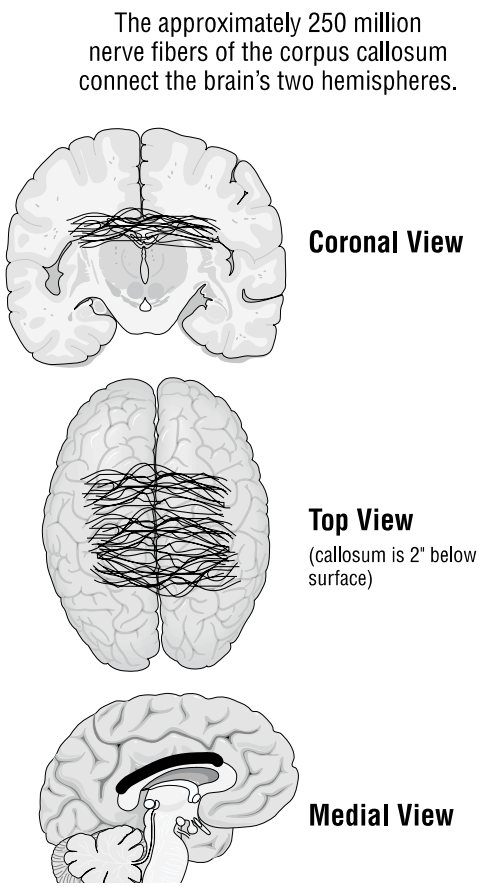
The two sides of the brain, the left and right cerebral hemispheres, are connected by bundles of nerve fibers. The *corpus callosum* (see Figure 1.6) is the largest of these connective pathways, with about 250 million nerve fibers. In healthy brains, this interhemispheric highway allows each side of the brain to exchange information freely. Patients whose corpus callosum has been severed can still function in society, but suffer an inability to integrate certain brain functions. For example, a subject who is shown an apple in his right field of vision might know what it is, but not be able to come up with the correct name for it. Switch the apple to the right field of vision, and the subject might be able name it correctly, but not be able to explain what an "apple" is.

Although each side of the brain processes things differently, some earlier assumptions about the "left" and "right" brain—that the left brain is "logical" and the right brain is "creative"—are outdated. In general, the left hemisphere tends to process information in parts, in a sequence, and using language and text representations. But none of these tendencies guarantees that the left brain will be logical. If a learner sequences words and then assembles the parts of sentences, there's no guarantee that the written material is logical. Any high school English teacher will confirm this. The use of logic is not a given; it's a learned, highly complex, contextually

based, and rule-generated subskill that probably uses many brain areas. Again speaking generally, the right hemisphere tends to process information as a whole, in random order, and within a spatial context. But, like the left-brain tendencies, none of these tendencies guarantees that the right brain will be creative. Creativity can be either more right- or more left-hemisphere dominant. Logic can be either more left- or more right-hemisphere dominant.

Figure 1.6

Three Views of the Corpus Callosum



For all these reasons, it's best to avoid the labels of "left-brain" and "right-brain" thinking. Clearly, some people do *prefer* linear processing and others do *prefer* randomness. But that's all it is—a preference. And there's no scientific support for music and arts being "right-brained frills" (Jensen, 2000). Many of the greatest scientific and mathematical discoveries of the last 500 years fit the qualities of both right-hemisphere processing (random, focused on the whole, having a spatial context) and left-hemisphere processing (sequential, focused on the parts, relying on language).

Recent discoveries in cognitive neuroscience have shown many nuances in the left- and right-brain preferences. Trained musicians process music more in their left hemisphere, while novice musicians process it more in the right hemisphere. Why? The brain of a more-experienced musician is trained to recognize the elemental parts of music more than a beginner's brain. Among left-handed people, almost half use their right (not left) hemisphere for language. And here's something odd: those chess players who battle IBM's "Big Blue" computer for big bucks have more activity in their right (not left) hemisphere during their games. But beginning chess players usually have more activity in the left hemisphere.

Richard Davidson (1992) at the Laboratory for Affective Neuroscience at the University of Wisconsin has shown that the right hemisphere is activated with negative emotions and the left hemisphere is activated with positive emotions. People with more left-hemisphere activations tend to be happier and more positive than those with a right-hemisphere dominance. We also know that the left hemisphere controls movements on the right side of the body, and vice versa.

As you may have guessed, it would be difficult to have a left- or right-brained school. Although a teacher could structure an activity so that it was hemisphere-dependent, on most typical schooldays, students use both sides of the brain. Let's put aside the notion of right brain versus left brain and move on.

Competition

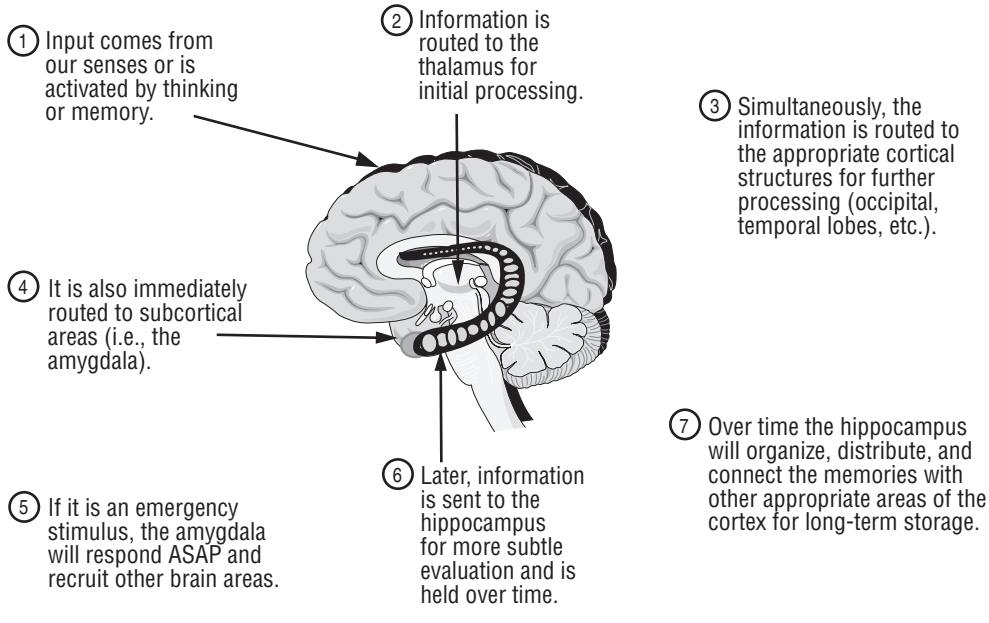
"Competition within the brain" sounds a little like malfunction to be corrected. Actually, the brain has a problem to solve. Because humans have so much uncommitted brain tissue at birth (proportionally more than any other species), our brains have an extraordinary opportunity to become customized by life experiences. Put another way, the human brain has a great deal of uncommitted postnatal "real estate." These undeveloped brain areas are waiting for signals from the environment to tell them whether they should "set up camp" or wait for further signals. The competition concept is simple: whatever is first, whatever activities are more frequent, and whatever actions are more coherent will "win" the competition for network wiring and signal the brain to allocate space and resources to that set of behaviors.

Sophistication: How the Brain Learns

Although there are many examples we could look to for an illustration of the brain's complexity, it's the learning process that we want to focus on. At the most general level, the brain processes for learning are deceptively simple (see Figure 1.7).

Figure 1.7

How the Brain Learns New Content



Input to the brain arrives from the five senses or is generated internally through imagination or reflection. This input is initially processed in the thalamus, but it's also routed simultaneously to other specific areas for further processing. Visual information is routed to the occipital lobe, language to the temporal lobe, and so on. Quickly, the brain forms a rough sensory impression of the incoming data. If any of the data are threatening or suspicious, the amygdala (the "uncertainty activator") is activated. It will jump-start the rest of the sympathetic nervous system—the part of the nervous system that helps us deal with emergencies—and enable a quick response.

Typically, however, the frontal lobes hold much of the new data in short-term memory for 5 to 20 seconds. Most of the new information is filtered, dismissed, and never gets stored. It may be irrelevant, trivial, or not compelling enough. If it's worth a second consideration, new explicit learning is routed to and held in the hippocampus. There the information is processed further to determine its value. If the new learning is deemed important, it will be organized and indexed by the hippocampus and later stored in the cortex. In fact, it will be stored in the same lobe that originally processed it—visual information in the occipital lobe, language in the temporal lobe, and so on. The original processing takes place at lightning speed, but the subsequent stages and storage process can take hours, days, or even weeks. To better appreciate the brain's complexity, let's take a closer look at learning.

The Mechanics of Learning

Have you ever fallen in love? The mechanics of learning are a bit like human relationships. Initially, there's some attraction. Early on, dating is more effortful, with one person often trying harder to "make it happen." Either there are some "sparks" or there aren't. If the sparks don't reach the threshold needed to continue, the dates are no fun and the two people go their separate ways. If the dating goes well and becomes more intense, it may become exclusive. The couple may decide to become engaged and get married. The relationship deepens. Whereas early on in a relationship little things were often misinterpreted, at some point, the relationship is close enough so that a kind word, a smile, or a touch goes a long way toward saying "I love you." We could say that the relationship has matured. Less contact goes further, whereas early in the relationship it took more contact to get the same partner reaction. So, what do attraction, lust, love, consummation, and maturity have to do with the brain and how we learn?

First, it's important to know that humans learn in many ways, including through sensitization, habituation, conditioned responses, semantic learning, imitation, and by doing. Many of these processes are not well understood. For the most part, long-term potentiation (LTP) has been accepted as the physical process of learning. The foundation for LTP was built on the work originally done by Donald Hebb in 1949. Since LTP was first described in 1973 (Bliss & Lomo, 1973), countless experiments have explored this process of memory formation. LTP means a neuron's response to another neuron has been increased. It has "learned" to respond. Each future event requires less work to activate the same memory network.

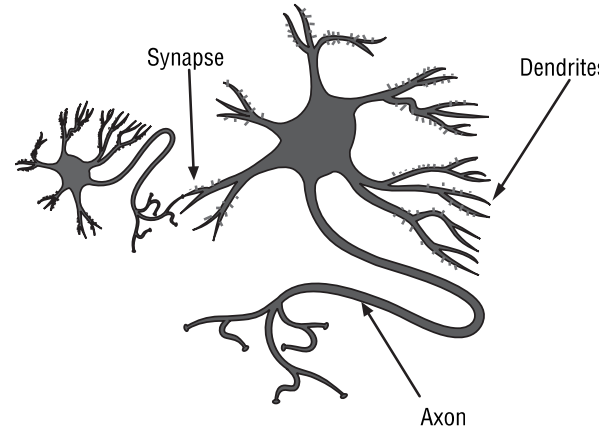
Briefly, the process goes like this. The units in the brain that are largely responsible for information processing and storage are the neurons and the glia. The brain has at least two dozen types of neurons. As mentioned on page 8 (and illustrated in Figure 1.8), neurons have a cell body, a tail-like extension called an axon, and branchlike structures called dendrites. The junction between two connected neurons is called a synapse. Neurons use both chemical and electrical signals for processing. Each brain cell acts as a tiny electrical battery. A normally functioning neuron is continuously firing, integrating, and generating information; it's a virtual hotbed of activity. The connectivity is powered by the electrical-to-chemical-to-electrical activity within each nerve cell. Information flow in the cortex always goes in two directions. Receiving neurons "talk back" to the neurons that are providing the information. This "dialogue" produces a large amount of internal feedback for error correction.

The electrical charge is generated by the difference in concentration of sodium and potassium ions across the cell membrane of each nerve cell. Neurotransmitters are chemicals stored in the ends of the neuron's axon, which nearly touch the dendrites of another cell (see Figure 1.9). Typically, the neurotransmitters are either excitatory (glutamate is the most common) or inhibitory (an example is GABA, or gamma-aminobutyric acid). Glutamate is highly excitatory—something like zoo monkeys teased by a hyperactive class of 4th grade boys. At first, the monkeys may simply ignore the visitors, but with just enough activation, all heck breaks loose. The sum total of all the neurotransmitters arriving from all the dendrites to the cell body at any moment determines whether or not that cell will, in fact, fire. The electrical discharge that comes down the axon stimulates the release of that final "oomph" of stored glutamate into the synaptic gap—the "playing field" or "common activity area" defined by the area just outside the end of the outputting axon and just outside the surface of a receiving dendrite—and a glutamate threshold is reached. This "climax" in the synapse releases neurotransmitters such as serotonin and dopamine into the synaptic gap.

Once chemicals have been released into the synaptic gap, a chemical reaction triggers (or inhibits, depending on which chemical is involved) a new electrical reaction in the receptors of the contacted dendrite. Thus, the process is electrical to chemical and back to electrical. The process is repeated as it moves on to the next cell. But it's also important to suppress unwanted neural firings. Long-term depression (LTD) occurs when a synapse is altered so that it is *less* likely to fire and it's promoted by making the wrong connection less likely and eliminating possible "false positives."

Figure 1.8

Two Neurons Connecting

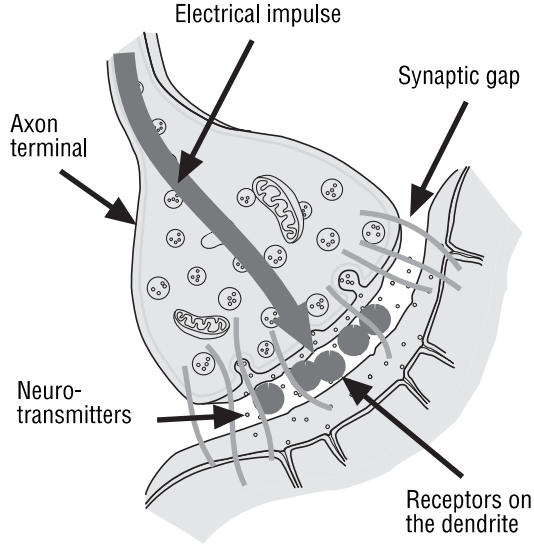


This occurs when you make mistakes and then learn from them. A good example is trial-and-error learning (Siegfried, 1997). So learning is not just about being able to "throw the switch" on the right neurons. You also have to be able to shut down other neurons. Learning involves both excitatory and inhibitory processes.

When learning occurs, specific neurons connect and form a "junction box" at the synapse. When we say cells "connect" with other cells, we really mean that they are in such close proximity that the synapse is easily, almost effortlessly, "used" over and over again; the cells have changed their receptivity to messages based on previous stimulation and have "learned." In short, learning happens at a micro level through the alteration of synaptic efficacy. Excited cells will excite other nearby cells. Technically, a specific type of contact occurs between an axon and a dendrite. A process known as synaptic adhesion helps "bind" the two together (Goda & Davis, 2003) in close proximity with protein strands. Without these strands, the axon and dendrite would drift apart.

Figure 1.9

The Synapse—Where Learning Takes Place



To understand what happens beyond the micro, cell-to-cell level, consider this analogy. Individual students may have a small influence on a school, but assemblies of students (clubs, sports teams, special interest groups) can change the school's entire nature. Likewise, the brain multiplies the individual cell-to-cell learning process by thousands, even millions. These network codes are robust; damage to one neuron will not damage the entire "coded" network (Pouget, Dayan, & Zemel, 2000). The brain has what we call population codes or neural networks—entire "forests" of neurons signaling other neurons, many with massive proliferations of dendrites. An individual cell may be connected, through its synapses, to tens of thousands of other cells. At the simplest level, learning may seem microscopic, but each neuron plays its part in larger assemblies of cell networks. Inside the brain, several conditions show that learning has taken place:

- *Modification of existing connections.* The connections are strengthened, weakened, or reprogrammed to new neurons. Location is unimportant; the dendritic connections are equally potent whether they are at the farthest end of the neuron or right next to the cell body (Magee & Cook, 2000).
- *Elimination of synapses.* Synapses are eliminated through pruning and experience. What you don't use is usually eliminated in the competitive neural world.
- *Growth of new connections.* This process, called synaptogenesis, is typically the result of new learning.

- *Retention of exuberant connections.* Although some synapses are normally eliminated, unusual conditions such as trauma or prenatal insult (e.g., poor nutrition or exposure to dangerous drugs in utero) can prevent this from happening—meaning the brain will retain those "extra" synapses.
- *Compensatory reorganization.* In cases of lesions or insults, areas of the brain may reorganize. For example, in some brains with damage to the left hemisphere, language repositions itself in the right hemisphere. In nontraumatic cases of experience-driven learning (such as playing a musical instrument over time), the brain may "remap" itself, using up abnormal areas of neural real estate.

The repeated mention of "synapses" may lead you to think they are the holy grail in learning. Although synapses are certainly key players, learning is far more complex. No causal relationship exists between the number of neurons and either learning or intelligence. Researchers also now know that learning is not simply "stored" at the synapse. If that were the case, activation of a particular synapse would *always* activate a particular memory. Other factors come into play, and the brain's enormous sophistication begins to reveal itself. Even with the learning stored properly, only the right "state activations" (meaning the right neuronal assemblies) and the appropriate chemical mix will retrieve the learning.

Whole-body "states" activate these networks. When you're in a clear-thinking, level-headed frame of mind (a good state for learning), you learn and recall more than when you're depressed, tired, or angry. This conclusion seems straightforward, doesn't it? We'll learn more about states and learning in later chapters.

Applying What We Know

So what should we do with our knowledge about the brain? Is it useless theory? Just trivia? Not for the professional educator. As long as we are in the business of learning, the brain is relevant. Many studies present enough clear and solid information to be transformed into classroom practice. In *Minds, Brains, and Learning,* Byrnes (2001) suggests that any ideas from neuroscience that we want to implement should be integrated and consistent with other models from psychology and behavioral sciences. This is a good approach. Many of the studies cited in this book are multidisciplinary.

It's also a good idea to share information with your students about how their brains learn and work. Talk about how their lives influence their brains' adaptability. Help them make connections. And acknowledge the complexity of the brain by allowing a wider range of what we call learning. To paraphrase Einstein, today's problems cannot be solved with yesterday's thinking. Allowing learners to think outside the box is a good occasional strategy. Talk to interested parents about the brain too.

The following chapters present many solutions to everyday problems in teaching and learning. But be prepared: there also will be many questions.

Education

Teaching with the brain in mind

2nd Edition

Revised and Updated

Eric Jensen

Since *Teaching with the Brain in Mind* was first published in 1998, it has inspired thousands of educators to apply brain research in their classroom teaching. Now, author Eric Jensen is back with a completely revised and updated edition of his classic work, featuring new research and practical strategies to enhance student comprehension and improve student achievement.

In easy to understand, engaging language, Jensen provides a basic orientation to the brain and its various systems and explains how they affect learning. After discussing what parents and educators can do to get children's brains in good shape for school, Jensen goes on to explore topics such as motivation, critical thinking skills, environmental factors, the "social brain," emotions, and memory. He offers fascinating insights on a number of specific issues, including

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- The value of feedback.
- The importance of prior knowledge and mental models.
- Why stress impedes learning.
- How social interaction affects the brain.
- How to help students improve their ability to encode, maintain, and retrieve learning.
- Ways to connect brain research to curriculum, assessment, and staff development.

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Eric Jensen is one of the world's leading trainers of educators and others in the field of brain-based learning. A former teacher and current member of the Society for Neuroscience and New York Academy of Sciences, he has written more than two dozen books on learning and the brain, including *Brain-Based Learning, Arts with the Brain in Mind*, and *SuperTeaching*.

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Introduction

"Ladies and gentleman, the plane is safe," flight attendant Michael von Reth reassured the frightened passengers of Qantas airlines flight QF32. "Please take your seats. The captain will speak with you soon," he added, more hopefully than factually as the phone to the cockpit had gone dead (de Crespigny, 2012, np).

Moments before, as the aircraft climbed into a clear sky above Singapore en route to Sydney on the morning of November 4, 2010, a tremendous explosion had rocked the cabin, followed by what sounded like "marbles rolling across a corrugated tin roof." Looking out the window, it was apparent that one of the aircraft's four jet engines had exploded with enough force to rip the right wing open like a sardine can, spraying shrapnel into the fuselage. Flumes of fuel were now streaming out of the disabled engine.

None of this was supposed to be happening, of course. Von Reth and 468 other passengers and crew members were flying in one of the newest, largest, and most advanced aircraft ever.

In the flight deck, a cacophony of alarms was sounding. Red lights flashed everywhere as Captain Richard Champion de Crespigny and three other pilots tried to maintain their composure and make sense of what was

happening. Engine 2 had blown. Engines 1, 3, and 4 were degraded as well. According to de Crespigny, that wasn't even the biggest of their concerns. Their fuel pumps had also failed, leaving them with no way to transfer fuel from the failing engine to the others. With fuel streaming out of the aircraft, it was unclear whether they would have enough to make an emergency landing back in Singapore.

On the ground, locals who witnessed the explosion in the air and saw the fiery Qantas plane in the sky began tweeting about it. Their tweets quickly went viral. Within 13 minutes of the explosion, Qantas's stock price began falling as a result.

As flight QF32 approached the airport, de Crespigny realized that even as one crisis—the loss of too much fuel—was averted, it had created another. The enormous craft was coming in fast and heavy—as much as 42 tons overweight for the landing. Due to hydraulic system failures, the brakes were down to 64 percent of capacity, and reverse thrusters were unable to reach full power. Even if de Crespigny could safely land the plane, would he be able to stop it?

As the plane approached the runway, the stall warning sounded; the plane was now flying too slow and in danger of losing lift beneath its wings. Somehow, the computers and flight instruments on the plane had been wrong, directing them to throttle back too much (Sexton, 2012).

It was too late to make any adjustments, though, so de Crespigny had no choice but to aim for the near end of the runway to give the plane and its damaged brakes as much room as possible to stop. As the plane touched down, de Crespigny jammed his back against the seat and stomped the brake pedals hard to the floor. Somehow, miraculously, the damaged plane hit the runaway smoothly, and after a long heart-in-the-throat moment, it managed to roll to a safe stop. As it did, Michael von Reth came over the intercom: "Ladies and gentlemen, welcome to Singapore. . . . I think you'll agree that was one of the nicest landings we have experienced for a while" (de Crespigny, 2012, np).

Afterward, Captain de Crespigny was lauded as a hero in Australia. Certainly, his 15,000 hours of flight time and training in the Royal Australian Air Force had left him with the experience and composure he needed to land the aircraft safely and allow all of his passengers to walk away unharmed from what could have been one of the worst disasters in aviation history.

However, another unheralded component of the miraculous saga of QF32 was a simple technology that worked when all of the equipment, sensors, and computers on board the multimillion-dollar aircraft did not: checklists.

Altogether, de Crespigny and his first officer, Matt Hicks, worked through some 120 checklists to respond to the aircraft's system failures as a string of problems cascaded into one another. Throughout the whole ordeal, the checklists kept the flight crew calm, allowing de Crespigny and Hicks to stay focused on what mattered most so they could land the jet safely (Sexton, 2012).

Could checklists help teachers?

This book starts with a simple question: Could the simple "technology" of checklists, which are so effective in the aviation industry, be applied to teaching?

Preposterous, you might say. Teaching is nothing like flying an airplane. Children aren't machines that function or malfunction, nor do they respond to step-by-step procedures, no matter how many if-then branches you might hang from a decision tree.

Agreed. Yet consider, for a moment, hospital operating and emergency rooms. Patients often arrive with unspecified maladies. Unexpected complications result from even the most straightforward procedures. Surgeons cut into patients expecting to operate on one problem yet find another. Doctors and nurses must make life-or-death decisions, regularly acting on limited information.

In *The Checklist Manifesto: How to Get Things Right,* surgeon Atul Gawande (2009) describes his effort to apply aviation-style checklists to the chaotic environment of the emergency room, where smart, well-educated people sometimes make deadly mistakes that could have been avoided had they only taken a moment to reflect on what they were doing. The results of his experiment were stunning. In the eight hospitals where Gawande and his team applied checklists, major complications from surgery fell by 36 percent, and deaths dropped by 47 percent (Gawande, 2009). In all, 150 lives were saved—all from using checklists. At The Johns Hopkins Hospital, a simple, five-step checklist was used when administering IVs to patients (e.g., wash hands, treat patient skin with antiseptic, put sterile drapes over patient, wear a mask and sterile clothing, and put a sterile dressing over infection site), which resulted in the infection rate from IVs dropping from 11 to 0 percent. When a battery of checklists was applied throughout the state of Michigan, some $175 million in costs and 1,500 lives were saved (Gawande, 2009).

Again, we ask, could checklists have a similar positive effect in classrooms?

What if doing things differently made a difference?

All of these data from the medical world are impressive. Still, educating a child isn't a step-by-step procedure like surgery. It's more complex. Teachers must get to know their students and respond to each according to his or her individual needs. There's no prescribed formula or process to follow for that.

However, it's often the most complex situations where simple checklists can be the most useful. Checklists help doctors and nurses not because they're slow-witted or absent-minded but because of the staggering volume of information they are expected to assimilate into their practice.

Like medicine, education has had less-than-stellar success rates. Nationwide, nearly one-quarter of all students fail to graduate with their

peers (Aud et al., 2012). Among those who do graduate, more than one-third are ill prepared for either employment or college (Greene & Foster, 2003), thereby leaving the United States with one of the highest college dropout rates in the world—40 percent (Schneider, 2010).

Teachers are not to blame for all of these problems. Nevertheless, decades of research suggest that effective teachers can have a tremendous, positive effect on student success. A great teacher—one in the top fifth of all teachers, statistically speaking—can help students gain as much as 18 months of learning for every year they are in the classroom (Hanushek, 2002). That's pretty impressive.

It would be one thing, of course, if we had no idea what great teachers do to get these kinds of results. Fortunately, decades of education research have given us a great deal of insight into what works in the classroom, allowing us to identify specific teacher behaviors and practices that can make a big difference for students.

Stated differently, what research also suggests is that teachers can devote time to the wrong things, engaging in practices that simply don't work—or that don't work as well as other practices. Consider for a moment that pilots don't necessarily need to exert more effort to land a plane safely and nurses don't need to put in extra hours to prevent hospital infections. They simply take different actions and engage in more thoughtful behaviors when they're in the cockpit or operating room.

To a large extent, the same thing could be said of education. Effective teachers do not operate on different school calendars or with longer class periods; they simply do things differently with the time they're given. Any teacher might therefore wonder: What different actions could I take in my classroom to help more students become more successful?

If there were one thing you could do differently each day to help even just one student do a little better, would you do it? What about three things to help three students? What if there were 12 things you could do every day to help all of your students? Would you do them?

If we know better, why don't we do better?

Given everything we know about good teaching practices (and the fact that none of it has been kept a secret), we might expect to see research-based practices universally applied in most, if not all, classrooms. Unfortunately, that's not what we see. Generally speaking, teachers appear to be struggling to apply what we know from research in their practices. In some classrooms, research-based practices are simply absent; worksheets, true-false quizzes, and simplistic recognition-and-recall questions dominate. In other classrooms, teachers may attempt best practices but fall short in their implementation. For example, they may create clever assignments that do little to advance student learning.

Robert Pianta, a researcher from the University of Virginia, and his colleagues closely examined the educational experiences of 994 students from across the United States in grades 1, 3, and 5, and they concluded that 9 percent of students received poor-quality instruction and emotional support in all three grades. Conversely, only 7 percent of students received the benefit of high-quality instruction and emotional support for all three years (Pianta, Belsky, Houts, & Morrison, 2007). If we know so much about how teachers can improve student learning, then why isn't it consistently applied in all classrooms? To put a finer point on it, "If we know better, why don't we do better?" (Zmuda, Kuklis, & Kline, 2004, p. 5).

How can we overcome information overload?

Educators might take some solace in knowing that they are not the only group that struggles to apply the known science of their profession. It takes the medical profession up to 17 years to apply some research findings with at least half of all patients. The "reason for the delay is not usually laziness or unwillingness," Gawande (2009) observes. "[It] is more often that the necessary knowledge has not been translated into a simple and usable

form." In medicine, doctors are subjected to a "deluge of 700,000 medical journal articles per year" (p. 133). As a result, as "know-how and sophistication have increased enormously across almost all our realms of endeavor, so has our struggle to deliver on them" (p. 11).

Sound familiar?

In a previous book, *Simply Better*, Goodwin observed that educators experience a similar distracting deluge of information.

> In some ways, the countless studies, articles, and reports on education seem to create a phenomenon similar to what radio broadcasters refer to as signal-to-noise ratio, a measure of how much the true signal—be it Beethoven's *Moonlight* sonata or late-night talk radio—is corrupted by static. Like the crackles and whistles that break up the signal of a faraway AM radio station, the preponderance of reports, information, and ideas in the field of education may have the effect of drowning out the big ideas—the key underlying principles of what's most important when it comes to improving the odds for life success for all students. (Goodwin, 2011b, p. 2)

It is precisely for this reason—the complexity of teaching—that we first became interested in the idea of providing a checklist for teachers. Educators who found the five elements of effective schooling (as captured in the What Matters Most framework) to be helpful in clarifying and arranging their thinking made us wonder if we might do the same for teaching.

The aviation industry has developed a very different—and far more effective—way to condense new knowledge into practical application for pilots, as the following anecdote from Gawande (2009) illustrates. In January of 2008, the engines of a British Airways flight from Beijing to London unexpectedly seized up and shut off two miles from Heathrow Airport. The plane dropped like a stone from the sky and hit the ground at 124 miles per hour a mile short of the runway, but miraculously, no one was seriously

harmed. Safety investigators carefully sifted through the damaged aircraft and eventually determined that the cause of the accident was ice crystals forming in the fuel line as the jet crossed over the Arctic.

In response, the Federal Aviation Administration issued a lengthy advisory, informing pilots how to avoid the problem and what to do if it occurred. A team at Boeing spent two weeks mulling over the advisory and translating it into practical guidance in the form of revisions to the standard checklist used for transpolar flights, which were subsequently sent out and uploaded into the cockpit computers of all Boeing aircraft.

Months later, when a transpolar flight from Shanghai to Atlanta experienced ice crystal–related engine failure while 36,000 feet above Great Falls, Montana, the crew immediately knew how to restart the engine and prevent the other engine from failing. As a result, the checklist likely saved the lives of 247 people.

This concept of checklists that are updated, in real time, into an eminently practical and usable knowledge base is compelling. Can educators take a first step in the direction that the aviation industry has already taken? Could we offer a simple, practical tool—distilled from thousands of research reports, books, and articles—that educators could take and immediately apply in their classrooms?

How do we put the pieces together and stay focused?

The profusion of knowledge and science available to educators creates another challenge: it can be difficult to see how the various bits of knowledge fit together. As Gawande (2009) has observed about the medical field, "We're obsessed in medicine with having great components—the best drugs, the best devices, the best specialists—but [we] pay little attention to how to make them fit together well" (p. 184). He cites Donald Berwick of the Institute for Healthcare Improvement, who has observed that current

medical practice is akin to building a car by combining the best automotive components available: "The engine of a Ferrari, the brakes of a Porsche, the suspension of a BMW, the body of a Volvo. . . . What we get, of course, is nothing close to a great car; we get a pile of expensive junk" (p. 184).

A similar phenomenon may be at work in education. Teachers are expected to assimilate and integrate dozens of individually worthy, yet disparate, ideas that are thrown at them by well-meaning administrators, consultants, and authors. Try differentiated instruction! Implement response to intervention! Back-map your lessons! Teach to learning styles! Be culturally responsive! Scaffold learning! Have a courageous conversation! Engage parents! Integrate technology! Use brain research! These may all be fine ideas in and of themselves, but without some scheme for putting them together in a meaningful way, they may wind up resembling a complicated (if not expensive) pile of junk.

An added complication, of course, is the fact that, like pilots in jet aircraft hurtling through the air, teachers often don't have enough time to be contemplative or reflective while on the job. Claudia Meek (2003) captured the daily stresses of a classroom teacher with the following internal monologue:

> *Let's see. I need to collect money for yearbooks, plus those Valentine letters from parents, and homework. I also need those permission slips so I can take the Accelerated Reader contest winners to lunch with me on Friday.*
>
> "Who has their pizza permission slips signed?" *It's so easy for them to remember the things they really want to do! Oh, and I need to remember the box tops for PTA.*
>
> "Kids, put your Valentines away for now. Our party will start at about 9:30." *I wish we could have the party after lunch, but then we have the awards assembly.* "First, we work, then we'll play." *Didn't my grandmother say that?*

> *Maybe I can at least get through our spelling words for this week.* "Kids, please go to the word wall. This week all our words have a long *e*. How does the *e* get long?" *I've got to hurry to get this done before recess. We really have a lot to cover today.*
>
> *I'll try to reach Brandon's family during recess. I've got to finish his paperwork for the meeting. Poor little guy; he's really trying hard. He's doing well in his small reading group, but he'll never pass those new grade-level competencies. Wish I could get in touch with his family by phone. I'll write a letter tonight if it's still disconnected.* (p. 594)

This likely reflects what many teachers feel every day as they struggle to balance good instructional practice with the logistical demands of managing two dozen or more students in a classroom. Given the complications of fragmented and impractical information bombarding teachers who already have their hands full managing the daily challenges of their classrooms, is it any wonder that educators struggle to translate research into practice in their classrooms?

Why this checklist?

This is not the first or only checklist created for teachers, of course. The Internet is replete with them—a fact we were well aware of when we set out to create this checklist. Most of these checklists, however, focus on very specific tasks, such as unpacking standards, planning lessons, assessing student leadership qualities, or ensuring classroom orderliness. Thus, we felt we might contribute something far more valuable to educators if we could provide something of a master or meta-checklist—one that encapsulates and balances the big ideas about what it takes to be a great teacher: the ability to be demanding, supportive, and intentional.

Using Research to Identify What Matters Most

Of the many checklists available to teachers, some are more research-based than others. Professional wisdom has its place, of course, but for an initial effort to create a master checklist, we wanted to ensure that it was based on more than just what people *think* teachers should do and that it had a solid research base. The latter was informed by the following research efforts:

- In 2009, a McREL team, with funding from the Stupski Foundation, launched a major, yearlong effort to capture what's currently known about what it takes to ensure the success of all students—especially children of color living in poverty. To wrap our arms and minds around all that has been written and offered to educators in the name of improving student outcomes, we scanned thousands of research articles, books, and studies and eventually identified and digested more than 1,000 studies and reports related to seven components of school systems and the learning needs of underserved students, including pedagogy and curriculum. These reports formed the basis of both *Changing the Odds for Student Success: Doing What Matters Most* (Goodwin, 2010) and *Simply Better: Doing What Matters Most to Change the Odds for Student Success* (Goodwin, 2011b), which in turn served as part of the foundation for this work.
- In 2010, McREL researchers updated our meta-analysis of research on instructional practices that formed the basis of *Classroom Instruction That Works: Research-Based Strategies for Increasing Student Achievement* (Marzano, Pickering, & Pollock, 2001). This new peer-reviewed research study (Beesley & Apthorp, 2010) examined 512 studies of instructional strategies using meta-analytic research techniques. Results from the new research findings were translated into a revised, second edition of *Classroom Instruction That Works* (Dean, Hubbell, Pitler, & Stone, 2012).
- Since 2010, Bryan Goodwin has been writing a monthly column focused on research synopses for ASCD's *Educational Leadership* magazine.

As of this writing, more than 20 such columns have been published. Much of the research underlying this book has come from that work.

While creating our checklist, we looked for practices that, in essence, jumped off the pages of research journals for their significant effect on student achievement. We were mindful of what John Hattie (2009) calls "hinge-point" effect sizes—those effect sizes that are significant enough for educators to see "real-world change" in student achievement. Accordingly, we don't dwell on things such as classroom configuration or parental communication. Although both are important (certainly, there's no case to be made for cluttered classrooms or stonewalling parents), there's not an abundance of data that suggest they are so important that educators should strive to do them *every day*. Moreover, they may be better conceived as secondary behaviors or as practices that support other, more critical components and deep principles of effective teaching.

Connecting to the Deep Principles of Teaching

As we noted earlier, the deluge of information bombarding educators can create a weak signal-to-noise ratio in which the signal (i.e., what matters most) can easily get lost. Rather than add to the noise, this book aims to cut through it by signaling the deep principles of effective teaching. In other words, we aim to help teachers understand the deep *whys* that underlie what they should be doing in the classroom.

Formative assessment, for example, is important. However, we don't test students for the sake of testing them; we test them for deeper purposes, such as setting expectations for learning, checking for understanding, and guiding instruction. That's why you won't find a "test kids" item on this list. Instead, you'll find assessment practices embedded in checklist items related to setting high expectations for students, understanding student learning needs, and adapting instruction according to learning needs. These are the real reasons—the *whys*—for classroom assessment.

Another way to view these deep principles might be as the universals of teaching that apply across grade levels, subjects, and cultures. While writing this book, we found ourselves traveling across the United States, Australia, Canada, and East Asia to speak to and work with educators in a variety of schools (elementary, middle, and high school), geographic settings (rural, suburban, and urban), and student populations (including indigenous students and those learning English as a second language). These experiences informed our thinking about these deep principles. We wanted a list that would apply to all of the educators with whom we've had the pleasure of working over the years.

Providing a Do-Confirm List, Not a Read-Do List

For some, teaching by checklist may conjure up images reminiscent of George Orwell's *1984*—of teachers mindlessly following edicts from central command. Checklists, however, don't tell us what to do. They are not formulas. Rather, they help us ensure that we've got all the information we need to help us become more systematic about our decision making and not overlook anything important. Indeed, when it comes to endeavors with "true complexity—where the knowledge required exceeds that of any individual and unpredictability reigns," Gawande (2009) cautions that dictating every move "from the center will fail" (p. 79).

If you're a teacher who has picked up this book hoping to follow simple, step-by-step formulas that will take the thinking out of teaching for you, then this book will likely disappoint you. If you're an administrator hoping for a "Teaching for Dummies" book that you can use to prescribe your teachers' every action, then please set this book down. That's not what you'll find in these pages.

Indeed, from the outset, one of the key ideas that guided the creation of this checklist was that it should be what Daniel Boorman of Boeing Flight Operation describes as a Do-Confirm list, as opposed to a Read-Do list. A Do-Confirm checklist assumes that people mostly perform their jobs from

memory but benefit from occasionally stopping and referring to a list to make sure they've done everything they're supposed to do. A Read-Do checklist, on the other hand, "is more like a recipe. People carry out the tasks as they check them off" (Gawande, 2009, p. 123).

We have no intention of creating step-by-step instructions for educators to follow mindlessly. We believe teachers would (and should) find that insulting. There's simply no way to boil everything teachers must do in the classroom down to simple, step-by-step directions. In fact, as Hall and Simeral (2008) note, sometimes teachers labor under the misperception that checking boxes is what the job of teaching is all about. Bulletin boards decorated? *Check*. Attendance taken? *Check*. Homework assigned? *Check*. Lessons planned? *Check*. Grades turned in? *Check*. "In their minds, good teaching is about completing these 'teacher tasks'—checking off a set of prescribed activities" (p. 60). Simply doing activities misses the point, of course, of good teaching.

This book does not aim to be that kind of a Read-Do list. Rather, it aspires to be a bigger-picture, more universal Do-Confirm checklist that helps teachers become more mindful in their thinking about the big ideas of teaching, providing touchstones of great teaching for them (and their colleagues) to come back to, time and again, and ensure that they're doing what matters most in the classroom.

Keeping It Simple

Finally, we knew from the beginning that for this checklist to be effective, it would need to remain simple. When Gawande (2009) and his colleagues first developed a checklist for hospital emergency rooms, they discovered that it was too complicated to be useful. "The checklist was too long. It was unclear. And past a certain point, it was starting to feel like a distraction from the person we had on the table" (p. 113).

As we developed the teacher's checklist, we pictured the daily experiences of our readers being similar to Claudia Meek's, where it would be

impossible to consult a checklist while keeping control of the classroom and responding to the ever-changing needs of two dozen or more students. We knew from the outset that a 70-item checklist, for example, would be counterproductive; it would likely distract teachers from the students in front of them. What makes more sense is a shorter list that teachers can eventually internalize.

This checklist, then, doesn't aim to be exhaustively detailed or thorough—identifying every little (and perhaps obvious) thing a teacher might need to worry about (e.g., Are the lights on in my classroom? Are the kids in their seats? Do they have writing utensils?). Instead, it aims to help teachers focus on the big things that absolutely, positively must be done every day. Certainly, there are many things teachers should attend to; we believe the concepts presented in this checklist are the most important.

Finally, it's worth noting that simplicity should not be confused with shallowness or vapidity. Our aim is not to dumb down the practice of teaching or gloss over its complexity. This book has been inspired by the remarks of Supreme Court Justice Oliver Wendell Holmes Jr., who said, "I would not give a fig for the simplicity on this side of complexity, but I would give my life for the simplicity on the other side of complexity." We hope that these 12 things to do every day are precisely that: simplicity on the other side of complexity.

How should I use this book?

As former teachers ourselves, we have written this book with teachers in mind, hoping to create a resource that we wish we might've had when we were in the classroom—something that could help us make better sense of our professional practice and chart a course for our own professional growth. To that end, we envision this book being most helpful to teachers in a few important ways.

Developing a Teaching Theory of Action

One of the key differences between professionals and amateurs in any practice is that professionals have well-developed mental frameworks for arranging the key concepts and approaches of their profession. We're reminded of the story of Douglas MacGregor, father of the concept of Theory X and Theory Y organizations (which, incidentally, remains one of the most influential concepts in organizational theory and design). As a young professor at Harvard University, he asked a veteran professor to observe him in the classroom. Afterward, the professor told MacGregor to "stop jingling the coins and keys in his pocket, stop putting his feet up on the desk, and get a theoretical framework into which to put things" (Deutschman, 2007, p. 99).

In keeping with the advice of this sage professor, teachers also need a theoretical framework into which to put things—not only the content of their teaching but also their approach to teaching. We hope this checklist provides you with a way to develop (or refine) your own mental framework, theory of action, and deep sense of what you believe (from experience and research) to be true about good teaching and your personal approach to putting those ideas into practice in your classroom.

Having a theory of action for your teaching can help you filter and assimilate the barrage of new ideas coming at you all the time. Instead of feeling overwhelmed or confused about how to assimilate new ideas, you might instead have an "aha" moment such as the following:

- "Teaching these new Common Core State Standards will help me challenge my students more."
- "These ideas about culturally relevant instruction give me some additional ways to better engage my students."
- "This response to intervention approach will help me move from teaching to actually coaching my students."

In other words, instead of feeling like every new idea you encounter requires you to start over with new teaching practices, you can begin to see

how those new ideas enhance what you're already doing. At the same time, you'll be better equipped to filter new ideas, determining whether they're likely to improve upon what you're already doing. When they do not, you then feel more confident in disregarding them.

Staying Focused on What Matters Most

One way to free ourselves from letting urgent but unimportant matters—such as Valentine's Day parties, parent permission slips, and attendance sheets—consume our time is to first call out what matters most and then evaluate our daily activities against what we know ought to be our priorities. Later in this book, we'll discuss how teachers and whole-school teams can review classroom and school time to see how much of it is devoted to doing what matters most. It's entirely possible, of course, that you may view the items on this checklist and say, "I simply can't do all of those things in a single day; there's not enough time." If that's true, then ask yourself this: Which of the 12 items can I skip? You'll likely find this a difficult decision to make, which may prompt another question: If I can't do all of the important stuff I should be doing, what should I stop doing? We understand, of course, that many demands placed on teachers come from outside your classroom, which means you may need to negotiate items on your "stop-doing" list with others, including administrators and colleagues. This brings us to the third way you can use this book.

Supporting Professionalism Among Colleagues

"Just ticking off boxes is not the ultimate goal" of checklists, Gawande (2009) writes; rather, it's to "embrace a culture of teamwork and discipline" (p. 160). We hope that school teams will use this checklist to foster professional conversations about what good teaching looks like in every classroom. Doing so, and getting everyone on the same page about what great teaching looks like, can make it easier for you and your colleagues to share best practices. Indeed, it's possible that no teacher in your school

will immediately serve as an exemplar for all 12 items on this checklist. However, it's likely that among your school faculty, individuals may serve as exemplars for different items. Someone may do a terrific job interacting with students. Another may have expertise in using formative assessments and checks for understanding to adapt instruction methods. Yet another may have developed thoughtful rubrics for every major assignment that challenges students and helps them understand what's expected of them. You should learn from one another; there's no need to reinvent these wheels.

You may also determine that to really accomplish some of these items in a consistent way, you will want to develop checklists within this larger checklist. For example, you and your colleagues might decide that it would be beneficial to use a common checklist for translating standards into lesson plans. You might develop a schoolwide template for lesson plans that would itself serve as a checklist of sorts. Similarly, you might develop a common approach to grading or create a checklist to review before assigning homework. We believe that these additional checklists (some of which could be of the Read-Do variety) will be most useful and powerful if they come from educators working together—not handed down from an administrator or from afar by authors.

Finally, being clear about what matters most for great teaching can help school teams become more conscious and thoughtful about the new programs they decide to bring into their school. This checklist can help you and your colleagues ask questions such as the following: Will XYZ initiative support great teaching? If so, which component or components? Will it just create a shiny new distraction that will keep us from doing what we need to do?

How is this book organized?

The 12 daily touchstones presented in this book are the hallmarks of effective instruction. Highly effective teachers

• Challenge their students. Great teachers set high expectations for all students, challenging them with instruction that develops critical-thinking skills.

• Create positive classroom environments. Great teachers develop positive rapport with students, creating engaging classrooms that motivate learning.

• Are intentional about their teaching. Great teachers are clear about what they're trying to teach and deliberately use a broad repertoire of instructional strategies to help students accomplish their learning goals.

For this checklist, we've articulated these touchstones as the following imperatives for teaching:

- Be demanding: Align teaching with high expectations for learning.
- Be supportive: Provide a nurturing learning environment.
- Be intentional: Know why you're doing what you're doing.

The book is thus arranged into three sections—by imperative—with a chapter devoted to each touchstone. (See Figure 1.) Each of these checklist items is introduced with an overview of the research to help readers understand not only the importance of the item but also why it's important. This overview is followed by a number of suggestions, resources, examples, and anecdotes to help teachers understand what these 12 touchstones actually look like in the classroom.

Are you ready to really do it this time?

We assume that, for most readers, the 12 ideas presented in this checklist will not be earthshaking in their originality. Few may elicit a "Gee, I've never thought of that" response. However, if you take these items in the Do-Confirm spirit in which they're offered, we believe readers may find themselves thinking, "You're right. I do need to remember to _____ on a more consistent basis in my classroom."

Figure 1 | **12 Things to Do Every Day**

Imperatives	Touchstones
Be Demanding	**Item 1** ☑ I use standards to guide every learning opportunity. **Item 2** ☑ I ensure students set personal learning objectives for each lesson. **Item 3** ☑ I peel back the curtain and make my performance expectations clear. **Item 4** ☑ I measure understanding against high expectations.
Be Supportive	**Item 5** ☑ I engage student interest with every lesson. **Item 6** ☑ I interact meaningfully with every student. **Item 7** ☑ I use feedback to encourage effort. **Item 8** ☑ I create an oasis of safety and respect in my classroom.
Be Intentional	**Item 9** ☑ I make the most of every minute. **Item 10** ☑ I help students develop deep knowledge. **Item 11** ☑ I coach students to mastery. **Item 12** ☑ I help students do something with their learning.

In short, these 12 items may appear to be somewhat vanilla and unremarkable. Indeed, you might look at them and say there's nothing terribly new about any of them. After all, hasn't something like checking for understanding been around since, well, Socrates?

We would counter, however, by asking if it would be new for *every* teacher in your school to do all 12 of these things well, *every day*. How new would it be for you? Herein lies the larger point of this book: for some time now, policymakers have fretted over finding some new approach, program, or innovation that could "fix" education. We wonder if perhaps the real solution might lie not in doing anything new but in a relentless focus on doing what we know must be done and doing it well in every classroom, with every student, every day of the week.

The aviation industry seems to have learned a thing or two about getting their jobs right every day. Consider what it would look like if the success rate for air travel were as low as 99 percent: 870 planes would fall out of the sky every day in the United States alone. If that were true, no one would dare fly anywhere.

What if the "fix" for schools isn't a new program or set of policies but, rather, an incredibly simple approach—one that we benefit from every time we board an airplane or visit the doctor? What if all we need to do is find a better approach to identifying and sharing what we know we must do and then see that it gets done? What if it were that simple?

"When we look closely, we recognize the same balls being dropped over and over even by those with great ability and determination," Gawande (2009) observes. "We know the patterns. We see the costs. It's time to try something else. Try a checklist" (p. 186).

What do you think? Is it worth a try?

SECTION 1

BE DEMANDING



Articulate and Maintain High Expectations for Learning

In a now famous experiment conducted in 1965, researchers Robert Rosenthal and Lenore Jacobson (1992) told a group of teachers that some students in their classrooms had been identified on a Harvard test as being on the brink of rapid intellectual development. Unknown to the teachers, however, was that the test didn't actually exist; the students had been randomly labeled as having special aptitudes. A year later, those same students demonstrated higher IQs than their peers. The general principle that emerged from the study—dubbed the Pygmalion effect—has been confirmed in other studies (e.g., Hattie, 2009), and it has been demonstrated by such famous teachers as Marva Collins, Rafe Esquith, and Jaime Escalante: when teachers expect more, students rise to their expectations.

The Pygmalion effect, however, is not Dumbo's magic feather. Simply believing in higher student performance doesn't make it so. For starters, teachers must make their expectations for learning explicit to students. As we'll see later in this section, there's a science to doing this. Done well,

teachers can increase student motivation and achievement; done poorly, they can inadvertently undermine both.

Similarly, teachers must translate high expectations into unit and lesson plans that give students the opportunity to learn challenging content. If teachers fail to help students understand what "high performance" actually looks like, then students will struggle to visualize success and meet the high bar set for them. If measures of student learning don't reflect teachers' high expectations, then students may be receiving the tacit message that they aren't capable of high achievement.

In the following chapters, we highlight four touchstones that, when addressed together, can help teachers articulate and maintain high expectations for learning in the classroom and, thus, translate a belief that all students can meet high expectations.

ITEM 1

I use standards to guide every learning opportunity

Bryan Goodwin: It was my first year of teaching high school. My ethnically diverse 10th grade American Literature class was reading and discussing *The Adventures of Huckleberry Finn*. I had created what I believed to be thoughtful prompts for classroom dialogue on the delicate subjects of prejudice, feuding gangs, and social conformity—topics I thought my class of sophisticated, articulate students would eagerly discuss. Yet, somehow, the unit had fallen flat. Their gazes were wandering. Their answers seemed pat. Finally, I asked what was going on, a bit worried that perhaps the themes were too sensitive.

"Well, you know we all read this book in 8th grade," a student offered.

"You did?" I was stunned and embarrassed. I did not know that. As I offered a weak, impromptu rationale about the need to take a second, deeper look at the novel, I worked to tamp down my frustration. I was teaching on a small, K–12 campus where it should've been easy to get everyone on the same page. So why was *Huck Finn* getting taught in 8th grade when I was the one with the book in my curriculum guide and umpteen copies

of the novel in the back of my classroom? And why, for that matter, were some of the things I assumed my students should know—like the purpose of political satire—not being taught in earlier grades?

My annoyance, however, soon turned to anxiety. What wasn't I teaching my students that subsequent teachers might someday wonder how my kids had gotten through a whole year of 10th grade American Literature without learning?

Using Standards to Help Students Expect More of Themselves

It's no wonder that the school-level variable most strongly correlated with higher student achievement is a factor called "opportunity to learn"—the extent to which a school (1) clearly articulates its curriculum, (2) monitors whether the curriculum is actually taught, and (3) aligns its curriculum with assessments of student achievement (Marzano, 2000). Among these variables, the third—aligning curriculum to assessments—has the strongest link to student success.

Basically, the not-so-surprising implication of this research is that students do better on tests when they've been taught what's being tested. Hence, one of the key ways that low-performing schools nationwide have dramatically improved their performance is by getting their curriculum in order—clearly defining what students should be learning at every grade level and ensuring that it gets taught in every classroom (Chenoweth, 2007, 2009). If you find yourself in a school without well-developed or thoughtful curriculum guides, then one of your first tasks may be to work with colleagues and administrators to develop them. If curriculum guides are available, then you owe it to your students and colleagues to follow them.

This doesn't mean teachers should teach to the test, providing students with only the narrow slice of knowledge sampled by a standardized assessment. Rather, in high-performing schools, teachers use standards

and curriculum guides as guideposts to ensure they're covering what's most important for students to learn each step of the way. When teachers do this, higher student achievement usually follows without teachers having to resort to the unethical practice of putting an old test in front of students and teaching them what's on it.

In addition to getting on the same page with your colleagues, another function of standards (and the reason using them falls within the *Be demanding* section of this book) is that when we ask students to expect more from themselves, they usually rise to meet our expectations. Indeed, as great teachers such as Jaime Escalante have demonstrated, sometimes students just need someone to believe in them, challenge them, and unlock their potential.

Escalante, whose story was made famous by *Washington Post* reporter Jay Mathews (1989) and the 1988 film *Stand and Deliver* (Musca & Menendez, 1988), helped his students at Garfield High School—a school in a troubled, high-poverty, gang-infested neighborhood in East Los Angeles—not only take advanced placement (AP) calculus but also pass the exam with flying colors. Mathews observed Escalante for several months and concluded that it was Escalante's singular blend of unrelenting high expectations and tough love that transformed his students into true college-bound scholars. It may be no coincidence that the modern standards movement was launched by the nation's governors at a meeting in Charlottesville, Virginia, one year after *Stand and Deliver* hit movie theaters.

Here are some recommendations for how you can use standards to ensure that what you teach not only aligns with what's expected of students but also challenges them to expect more of themselves.

I unpack standards to clarify what students must learn.

Oftentimes, embedded in a single standard are multiple concepts, ideas, and skills that students must learn in order to master the overall

standard. As a teacher, one of the first things you should do when teaching standards is unpack them and determine what declarative knowledge (e.g., concepts, vocabulary, facts, details) and procedural knowledge (e.g., skills, procedures, abilities) students must acquire in order to master the standard. Consider, for example, the following grade 7 standard from the Common Core State Standards:

> **CCSS.ELA-Literacy.SL.7.2** Analyze the main ideas and supporting details presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how the ideas clarify a topic, text, or issue under study.

Even this single, relatively straightforward standard requires students to demonstrate multiple skills, including the following:

- Students need to be able to summarize text in order to highlight main ideas. (procedural knowledge)
- Students may need to use context clues to determine the meaning of new words. (procedural knowledge)
- To follow a speaker's argument, students should understand how arguments are constructed, including main ideas being supported with details. (declarative knowledge)
- To synthesize information across multiple formats, students might need to use graphic organizers to highlight key connections among ideas. (procedural knowledge)
- To analyze the extent to which details actually support main ideas, students likely need some basic knowledge about what makes details relevant and logical. (declarative knowledge)

With these knowledge and skill statements in hand, you can, in turn, identify critical vocabulary terms that students should learn (e.g., *fact*, *opinion*, *logic*, *emotional appeal*) to be successful in mastering the standard. Only by unpacking the standard will it be clear what students must really learn.

I look for the big ideas embedded in standards.

Although it's important to unpack standards into smaller components—to ensure you don't gloss over important details or procedural steps—it's also, somewhat paradoxically, important not to lose sight of the forest for the trees. That is, an overly reductive or fragmented approach to teaching can make learning less engaging and challenging for students. Thus, you should also look for big ideas or essential questions that are embedded in the standards. Framing a lesson around broad essential questions helps students "find personal relevance and can energize them as they seek answers as they begin a unit or lesson" (Ryan & Frazee, 2012a, p. 66).

Returning to the previous example, we might frame a lesson around the standard that requires students to analyze the main ideas and supporting details presented in diverse media with the essential question "How do authors develop their main ideas?" or "How do great speakers persuade audiences or entire countries?" The key idea is to think of essential questions as open-ended and not easily answered—in a word, challenging.

Essential questions should provoke deep thought—perhaps even debate—among students. In order to answer an essential question, students should have to learn and analyze new information, evaluate pros and cons, or make a personal decision based upon evidence.

For example, a teacher starting a unit on the French Revolution could post the following essential questions. Note that these questions do not require, specifically, memorizing dates or names but require students to understand—deeply—the events that led up to the French Revolution and their relevance in today's society.

1. How can popular opinion lead to both positive and negative changes in a society? What are some examples in today's world?

2. If you could go back in time and advise the Bourbon family during late July/early August of 1789, what would your advice be without giving

away that you know how future events will transpire? What evidence would you use to support your advice?

3. Natural disasters often act as catalysts that expose political and social shifts happening in a society. What are other examples of this phenomenon? Why do you think this happens?

For further guidance on why and how to write essential questions, consider reading *Essential Questions: Opening Doors to Student Understanding* (McTighe & Wiggins, 2013).

I use standards to guide lesson and unit planning.

The whole point of standards, of course, is to guide lesson and unit planning. We suggest using the following five-step process for translating standards or district curriculum guides into lesson plans:

1. Identify your focus for the lesson. Determine what, specifically, students will learn. Frame this information in terms of student-friendly learning objectives (e.g., "I understand and apply the Pythagorean theorem") and around essential questions (e.g., "How can I determine the length of a triangle's hypotenuse?").

2. Determine how you will assess learning. Begin with the end in mind. How will you know if students have met their learning objectives? What information will you gather along the way about their progress? At what points will you provide feedback and encourage effort?

3. Determine how to engage students. How will you pique student curiosity in the subject matter? How might you use journal writing, advance organizers, or provocative questions to hook their interest and help them connect learning with their own interests?

4. Determine how you will engage students in learning and mastering content. How will you introduce new learning to students? If you expect

them to master content, what opportunities will they have to extend learning, practice new skills, or deepen their knowledge?

5. Identify how to close your lesson. How will you help students summarize and demonstrate their learning? What checks for understanding might you use at the end of your lesson?

Although we'll explore lesson and unit planning in more detail in Section 3, we offer these steps here to demonstrate how standards should be at the heart of every learning opportunity you provide in the classroom, helping you focus learning on what students need to learn. To that end, remember that the shortest point between any two distances is a straight line—that is, lessons need not be complicated or lengthy to be effective; they simply need to provide students with opportunities to learn what they must know and be able to do.

I use standards as both a windshield and rearview mirror for lesson planning.

The new Common Core State Standards for Mathematics and English Language Arts are additive. They have been designed explicitly as building blocks, with the skills and knowledge gained in later grades building upon and expanding those from earlier grades. For example, a grade 6 reading standard states that students should be able to "cite textual evidence to support analysis of what the text says explicitly as well as inferences drawn from text." In grade 7, students are expected to "cite *several pieces* of textual evidence," and by grade 8, students should be able to "cite textual evidence *that most strongly supports* an analysis of what the text says" (Common Core State Standards Initiative [CCSSI], 2010).

This means that if your students miss the critical components they're expected to learn in your classroom, they'll likely struggle in later classes. As you develop your own lessons, you should therefore use standards both

as a rearview mirror to look back on the knowledge and skills students should have acquired prior to reaching your classroom and as a windshield to help you anticipate the knowledge and skills teachers in later grades are counting on you to teach your students.

There are two important points to make here. First, do not assume that every student will enter your classroom with all of the prior knowledge and skills needed to be successful for the rigors and challenges of meeting standards in your classroom. Having standards and unpacking them, however, can help you identify the prior knowledge they do need in order to identify and address any gaps they may have in their prior knowledge.

Second, and perhaps more optimistically, it is important to know where your students are going, so you can provide relevant enrichment or accelerated learning experiences for those students who are ready to move on. In fact, accelerated learning is one of the most powerful practices available to educators (Hattie, 2009), and a key purpose of standards-based learning is to challenge all students—not necessarily to normalize or hold back the learning of those who are ready to move on. Indeed, contrary to popular misperception, standards can actually be a powerful tool for personalizing learning and providing students with some degree of learning autonomy in the classroom.

I use standards to provide structure and autonomy for student learning.

Standardized learning does not need to turn learning into a military parade with all students marching dutifully at the same exact pace, their eyes fixed on the supreme commander in front of the room. In the hands of great teachers, common curriculum standards are personalized to student interests, creating intrinsically motivated learners. With that said, the standards should remain as important guideposts for learning. Without them, self-directed learning can miss the mark, creating busywork that fails to

prepare students for success. The main thing to remember, according to researchers, is that teachers must provide students with both structure and autonomy. Teachers must communicate clear expectations for learning and explicit directions and guidance, while tapping into students' interests and intrinsic motivation by highlighting meaningful learning goals and giving students opportunities for self-directed learning (Jang, Reeve, & Deci, 2010). The bottom line here is that teachers should use standards to structure student learning and the curriculum while using their own creativity to develop lesson and unit plans that are lively, intriguing, and motivating to students.

I use standards as a platform for creativity.

Too often, teaching to standards and aligning lessons to curriculum guides appear to turn lessons into motivation vampires, sucking out the life, creativity, and joy of learning for both students and teachers. A study designed to view schools through the eyes of teenagers, in fact, painted exactly that sort of gloomy picture of high school life (Csikszentmihalyi, Rathunde, & Whalen, 1993). At random intervals during the day, researchers asked students to record what they were doing and their level of engagement. In class, students reported low levels of interest, even in subjects where they were highly skilled, often because the purpose was not explained or because it was not applied to the "real world." The researchers concluded that "an unfortunate by-product of the standardized curricula in most modern schools is the depreciation of the role of teacher to that of information technician" (p. 177). In short, students reported that many of their teachers seemed to perfunctorily plod through the curriculum with little effort given to explaining its importance or purpose or to making lessons engaging or interesting.

A companion study of middle schools arrived at a similar conclusion. At the very age when adolescents begin to think in more abstract ways

(including asking why they should bother learning what's in the curriculum), traditional middle schools often give students "a heavy dose of lecture and seat work that students find tedious and confining" (Rathunde & Csikszentmihalyi, 2005, p. 60).

Some teachers, it would appear, may be interpreting (or may be told to interpret) standards-based instruction as akin to one-size-fits-all teaching. However, that need not be the case. Standards don't have to be bland or boring—the equivalent of Henry Ford's early 20th century approach to standardizing automotive production, which led to his famous quip: "Any customer can have a car painted any color that he wants so long as it's black" (Ford & Crowther, 1922).

If standardizing and personalizing learning seem contradictory, then you might look down at your shoes. No doubt, they're a standard size. You probably have several pairs of shoes that, even though they have different designs, are all nonetheless the same size. Standardizing your shoe size hasn't robbed shoe designers of their creativity or you of your individuality.

Another (and more modern) metaphor for standards may, in fact, be sitting in the palm of your hand: an Android smartphone. It operates on an open, standard platform that lets a growing number of manufacturers, programmers, and carriers apply their own ingenuity and creativity to cater to individual needs. In this regard, the Android phone's 21st century conception of standards is about as far from Henry Ford's Model T as you could hope to get. It's also a useful metaphor for how teachers can approach standards in their 21st century classrooms. When everyone gets on the same page about what's important for students to learn (i.e., standards), teachers can devote their time and energies not to figuring out what material to teach but, instead, to determining how to teach that material in a way that engages and enlightens students and—when possible—accelerates their learning.

Although we devote more attention to lesson planning in Section 3, some resources and an in-practice example are provided here to reinforce



Resources for Standards-Based Lesson Planning

- **Buck Institute for Education**—A nonprofit foundation devoted to providing project-based learning for students. Its website offers hundreds of free project-based lesson plans linked to Common Core State Standards. (www.bie.org)
- **ePals**—A free resource sponsored by National Geographic, the Smithsonian, and the *Cobblestone* and *Cricket* family of magazines. It provides lesson plans for standards-based projects that connect learners from across the globe. (www.epals.com)
- **McREL compendium**—A free resource for standards-based learning. It unpacks standards into key concepts and vocabulary terms and provides lesson plans linked to standards. (www.mcrel.org/standards-benchmarks)
- **Reconcilable Differences? Standards-Based Teaching and Differentiation**—*Educational Leadership* article from Carol Ann Tomlinson. (available free at www.ascd.org)

the message that challenging students with high standards does not imply or require boring them to death.

Final Thoughts: Striking the Right Balance

Throughout this book, you'll encounter a common theme. Over and over again, research points to the need for teachers to strike a balance between many seemingly juxtaposed concepts (for example, directivity versus nondirectivity, extrinsic versus intrinsic motivation, challenging versus supporting students). Here's the balance that teachers must strike when it



In-Practice Example: Project-Based Learning

Here's an example of how a teacher can spark student interest by crafting a project-based learning opportunity around standards.

Ms. Ibarra, a middle school teacher, has been working with her students on the following World History standard from McREL's compendium:

Standard 8, Benchmark 2: Understands the major cultural elements of Greek society.

She gives her students a list of major contributions of Greek society and assigns them the task of creating a multimedia presentation that shows how early Greek contributions can be found in their everyday lives.

Mariana, one of Ms. Ibarra's students, is particularly interested in how the architecture of some of her favorite buildings in town is based on classic Greek characteristics. As she begins gathering pictures of City Hall, the library, the original school building, and historic mansions in the downtown area, she realizes that these buildings not only use columns in their design but also borrow classic Greek features, such as rotundas, dentil crown molding, and friezes. Even more surprising, Mariana discovers in her research that some of the mathematical formulas used to create ancient Greek buildings have ties to the Golden Rectangle that she is learning about in her mathematics class. Because Mariana was allowed to choose a specific topic of interest, she finds purpose and excitement in what she is able to learn and teach to others.

comes to using standards to guide their instruction: teachers should use standards to challenge students and guide their learning so it aligns with prior (and future) learning, but they should also strive to make standards engaging and personalized and incorporate some autonomy so students want to rise to the challenge.

Nonetheless, standards should serve as a counterbalance to misconstruing personalized learning as a free-for-all or wholly student-guided exploration of the world in which teachers play a passive role as distant, "hands-off" facilitators of student learning. Researchers, in fact, note that when introducing new knowledge to novice learners, direct instruction (e.g., showing the steps for solving an algebra problem) works better than discovery methods (e.g., encouraging students to discover problem-solving methods through trial and error). As it turns out, too much unguided instruction is inefficient and can leave students with gaps in their knowledge or with misconceptions (Kirschner, Sweller, & Clark, 2006). Thus, discovery teaching might be best seen as a final phase of teaching, helping students extend and apply knowledge—akin to the "I do/WE do/YOU do" (i.e., gradual release) model of teaching. The point here is not that self-guided learning is wrong. Indeed, done well, it can motivate and engage students. However, it should be balanced with clear, standards-based expectations of what students should know and straightforward instruction to ensure they learn it.

Here's the final key message of this chapter: it's critically important that every teacher gets on the same page with the learning opportunities they provide students to ensure that student learning experiences reflect a continuous progression toward greater knowledge and skills—without gaps and unnecessary redundancies. However, being on the same sheet of music as your colleagues doesn't have to sound like a dirge. Think of it more as a jazz ensemble, where everyone knows how to carry the tune yet is able to do it with a distinct style, talent, and creativity.

THE 12 TOUCHSTONES OF GOOD TEACHING



CHECKLISTS HELP US WORK BETTER. They help us manage complex tasks more effectively and ensure we apply what we know correctly and consistently. They've become indispensable for airline pilots and doctors, but can this low-tech approach to planning and problem solving demand a place in the teacher's toolkit? Teaching is complicated, with challenging decisions and important consequences, but it's in the most complex situations that a straightforward checklist can be the most useful.

Goodwin and Hubbell present 12 daily touchstones—simple and specific things any teacher can do every day—to keep classroom practice focused on the hallmarks of effective instruction and in line with three imperatives for teaching:

BE DEMANDING: Align teaching with high expectations for learning.
BE SUPPORTIVE: Provide a nurturing learning environment.
BE INTENTIONAL: Know why you're doing what you're doing.

If there were one thing you could do each day to help one student succeed, you'd do it, wouldn't you? What about three things to help three students? What if there were 12 things you could do every day to help all of your students succeed? There are, and you'll find them here.

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Preface

The educational process is one of continual reorganization, reconstruction, transforming . . . since in reality there is nothing to which growth is relative save more growth, there is nothing to which education is subordinate, save more education.

—John Dewey

When asked, "What do you want to be when you grow up?" young children don't typically say they want to become a psychometrician or school administrator. Yet people who have made assessment their career have had their inspirations and can point to the eye-opening experiences, wondrous events, or extraordinary individuals that have influenced them along the way.

My father started me on my path. He dropped out of school at age 12, when his mother died, and went to work to support his family. As an adult, he finished his high school education at night school and always extolled the value of a good education. His influence helped me to become a lifelong learner, and I routinely and robustly impart that message to my children.

From my extended family, I have learned the value of *sisu*, a Finnish word meaning "perseverance," and I have also learned to embrace a family tradition of questioning and testing hypotheses. These two values have stood me in good stead throughout my career. I like to question and entertain different viewpoints and persevere in doing so until I reach a balanced conclusion. You will see I have kept to this in the book by including other researchers' opinions on issues, which are at times divergent.

When I started working in education in the 1970s, I brought my bent for questioning to the era's largely homogeneous classrooms, with their straight rows of student desks and teachers standing in front of the room talking at students. During that time, I proposed a master's thesis on the relationship between classroom seating arrangements, instructional methods, and learning outcomes. My hypothesis was that flexible seating arrangements would be more conducive to discussion and collaboration. My academic advisors discouraged me from this focus, opining that it was not important enough to warrant research, but my interest in the relationship between teaching practice and learning outcomes persisted.

At the ripe age of 50, I became passionate about assessment. In my avid reading of educational journals and research (my father's influence, I'm sure), I began to see a clear connection between what we know about *how* students learn (based on a large body of research on cognition) and the development of strategies that can be used to accurately determine *what* students know. I also became aware of a significant gap between data unearthed by research and the reality of classroom practice. For example, the National Research Council's *Knowing What Students Know* (Pellegrino, Chudowsky, & Glaser, 2001), a fundamental volume on contemporary assessment issues, is one of this topic area's best-kept secrets. It shows a clear discrepancy between how students learn and how teachers measure learning outcomes. Understanding by Design, an instructional design system presented by Grant Wiggins and Jay McTighe in a 1998 book of the same name, has been promoted for over a decade, yet many teachers have still not heard of it. D. Royce Sadler's (1989) work on formative assessment provided a foundation for the Black and Wiliam (1998) landmark study that led to further research on the value of formative assessment. But as Rick Stiggins (2002) has noted, the follow-up and application of this

knowledge is sorely lacking. These ideas developed into a dissertation topic and a new twist in my career. A passion found at any age is a gift. As the famous philosopher Georg Wilhelm Friedrich Hegel said, "We may affirm absolutely that nothing great in the world has been accomplished without passion."

During the course of my dissertation, members of my graduate cohort were a valuable support and source of inspiration. Many of them were also formalizing their areas of interest, developing hypotheses, and designing research studies, and much of their work related to assessment. For example, Marguerite was examining how schools select reading programs to meet the needs of their early learners. Bernie was looking at the criteria that districts used in the principal selection process. Kathy was studying programs for at-risk students and investigating the success rates of a variety of programs.

Most recently, my inspiration has come from teachers. I meet many in my workshops on formative assessment who are dedicated and motivated to help their students. They have steered me in new directions with their informative, illuminating, and thoughtful questions and responses. They have led me to write this book and begin to share with a broader audience the strategies I have used in my own classroom as well as ideas and inspiration from other teachers.

Maya Angelou wrote that "a bird doesn't sing because it has an answer, it sings because it has a song." In my workshops, I explain that I am not an expert with *the* answer but, rather, a maven. The word *maven* comes from a Yiddish word meaning "to understand." Malcolm Gladwell (2002) uses it in his book *The Tipping Point* to describe someone who accumulates knowledge and uses that knowledge to start a trend. Formative assessment is not a new trend, but it is gaining momentum due to the work of many mavens, many singers.

This book about assessment may more closely resemble a quilt than a song, seeing as it is stitched together from many pieces. My sister is an accomplished quilter of cloth, and although my clumsy fingers have never been up to the challenge of the fine intricacies of cutting and stitching fabric, I hope that in this book I have been a successful quilter and that a clear pattern of how to use formative assessment emerges from the pieces.

Introduction

I sometimes start a workshop by asking teachers to think back to their own student days and their *worst* assessment experience. Everyone has a story.

I've heard about tests that had nothing to do with the assigned text or the instruction. I've also heard of teachers telling students about to begin a test that they were expected to fail it. The story I often share is about my first economics class at the University of Connecticut. Having no experience with the subject and finding that the classroom lectures didn't provide much illumination, I decided my best chance to pass the test was simply to memorize portions of the text and repeat them verbatim as my answers. When the professor called me into his office to accuse me of plagiarism, I explained my predicament and, fortunately, we were both able to laugh about it. I then received some extra help in understanding economic theories and statistics. So while this was my worst test experience, it was also my first taste of the effectiveness of formative assessment, although it would be many years before I came to understand it as such.

The word *assessment* comes from the Latin root *assidere,* which means "to sit beside another." Our best assessment experiences are usually the ones that reflect the word's roots

most closely; they are the times a teacher sits beside us to gather information about our progress and support our learning. The best assessments help us move forward. When my college economics professor and I finally sat side by side, he was able to understand what I did and did not know, and we were able to plan the next step together. That is formative assessment: the process of uncovering and understanding what students know in order to determine the best path to learning.

Traditional Versus Formative Assessment

The traditional way to gather information about student learning is through summative assessment—a test, sometimes teacher-generated, sometimes common across classrooms and content areas, and sometimes standardized, given at the end of instruction for the purpose of measuring achievement. As teachers, we typically use the information from our tests to assign a grade and then move on to the next unit of instruction. As administrators and policymakers, we often use scores from standardized assessments to rank our school's or district's or state's achievement. These measures are valuable. They tell us where students have placed in the race, giving us a snapshot for comparative purposes. At this point, however, the race is over. In contrast, formative assessment gives teachers information that they can use to inform their teaching and improve learning while it is in progress and while the outcome of the race can still be influenced.

Formative assessment encompasses a variety of strategies for revealing students' understanding, allowing teachers to pinpoint and address any impediments to a student's progress. The process is much like a coach setting short exercises to assess a runner's stride, speed, and equipment and then making appropriate adjustments so that the runner can improve. Teachers use formative data to decide how much and what kind of learning, support, and practice a student needs to reach the goal. When formative assessment is employed before, during, and after instruction, both teachers and students have a measure of progress.

Achievement needs to be viewed not as a test-based number but as measurable growth over time. In this context, achievement means that students are working to improve their knowledge and skills. Different students

will undertake this in different ways—perhaps some taking smaller steps than others—but progress is being made nonetheless. To go back to our race analogy, runners evaluate their achievement not only by where they place in the final standings but also by how much their individual performance has improved. Formative assessment allows both teachers and students to measure learning by inches, ounces, and degrees. The results can inform teacher and student decisions about what to do next on an hour-to-hour, day-to-day, or month-to-month basis.

A Classroom View

Meet Ernesto and Mei, students in the same 9th grade pre-algebra class. Ernesto failed math in 8th grade but was promoted due to the district's policy of not retaining students. Because of budget cuts, summer school classes were not funded at his school, and his parents didn't have the resources to pay for him to be tutored elsewhere. So Ernesto is entering grade 9 as the same genial but disengaged student he has become over many years. He has found that being the class clown is an effective way to distract teachers from their work and from truly knowing his abilities.

Mei's family immigrated to this country a few years ago. She has been a reluctant learner of English, and her family and neighbors mostly speak her native language. As a student, she is well behaved, respectful, and cooperative. Her comprehension is sufficient for her to get by, but she is constrained in speaking because her verbal fluency and clarity are still limited. Intellectually, Mei is ready to study algebra, but the 8th grade teachers decided that she needed to work on her language skills in order to be successful with word problems and applying mathematical concepts.

A traditional classroom experience. Let's begin this case study comparison by imagining Ernesto and Mei in a traditional classroom. On the first day of school, their teacher, Ms. Blankenship, assigns them seats in alphabetical order and hands out a syllabus that includes topics and assignments related to the course goal: *Students will demonstrate understanding of algebra by using algebraic symbols and variables; by simplifying algebraic expressions; by solving and graphing inequalities; and by evaluating, solving, and graphing linear and quadratic equations.* As the weeks pass, Ernesto,

Mei, and their classmates all listen to the same daily lectures and receive the same homework assignments. They are all tested at the same time with the same assessments. Grades are based on an average of all summative test scores.

Mei does well with the numerical problems but has trouble with the word problems; her grades are average, and she is quiet and fairly disengaged in class. Ernesto has difficulty understanding many of the ideas in the textbook and is often baffled by the homework assignments, which he rarely completes or turns in. He begins bringing in chewed-up pieces of paper into class, joking that his hamster ate his homework. By midyear, Ms. Blankenship has a sense that Mei will be passing the class but Ernesto will not.

A formative classroom experience. In a classroom that incorporates formative assessment, Mei and Ernesto have a very different experience. On the first day of class, they take their seats at trapezoid-shaped tables that are arranged in rows. Their teacher, Mr. Major, comments that they shouldn't get too used to the seating arrangement because they'll be moving the tables around to sit in different places and with different groups and partners, depending on class activities. The students will eventually come to understand the varied groupings as their teacher's response to ongoing formative assessment data.

Mr. Major also distributes a syllabus on the first day of class that clearly states the pre-algebra course objective: *Students will demonstrate understanding of algebra by using algebraic symbols and variables; by simplifying algebraic expressions; by solving and graphing inequalities; and by evaluating, solving, and graphing linear and quadratic equations.* Because Mr. Major wants to be sure his students can relate to the lofty goal articulated in the syllabus, he attaches a handout with additional big ideas about math, such as how it is used in school, in the workplace, and in life.

Numbers can show relationships between things, Mr. Major explains. We can analyze numerical data to guide decisions, and we perform operations on numbers every day in the form of measurement, shapes, and graphs. He posts each of these purposes on large sheets of paper, distributes stacks of sticky notes, and asks the students to record some of the ways in which they use math in their daily life and attach these notes to an

applicable purpose. Mei thinks of how her family struggles to make ends meet and their current calculations to figure out if they can afford to buy a car to improve their employment opportunities. On sticky notes, she writes "make a budget" and "save for a car." Ernesto tries to think of careers that don't require math but quickly realizes that the sales and service professions he was thinking of use math skills.

As the weeks pass, Mr. Major varies his instructional practices and uses pre-assessments and exercises like the sticky-notes activity and Quickwrites to get a sense of what approaches will work best for various students. For example, Mei often finds herself working in small groups where it's necessary for her to find the words to explain her mathematical reasoning. Mei realizes that when she has classmates who can clarify what the word problems mean, she is able to identify the mathematical operations necessary to come up with a solution. Initially, the idea of working with others was intimidating, but over time, Mei overcomes her shyness; working with and talking with others gets less and less intimidating.

Outgoing Ernesto relishes the opportunity to work with others. Sometimes he's grouped with other students who are struggling with the same concept that he is, and they all get directed instruction from Mr. Major; other times, the members of his group have a varied range of understanding, and they help one another learn. In this environment, Ernesto finds he doesn't feel as exposed or threatened; it's OK to admit he doesn't understand something when it's clear that others don't understand either. He also likes how the various activities in class keep things from being boring. Mr. Major doesn't just talk and assign problems; he gets everybody involved. For example, one day they all left the classroom and labeled things around the school that displayed a mathematical construct. They returned to compare and contrast the various findings, which they captured in a Venn diagram.

Mr. Major's approach also makes it easier for Ernesto, Mei, and their classmates to stay on top of the assignments. They each keep a notebook of concepts, assignments, reflections, and homework, which Mr. Major collects and reviews every three weeks and then returns with personal comments. Ernesto is especially pleased when his teacher notes his improvement in representations of algebraic expressions. He also finds

suggestions and practice problems for building his capacity for evaluating algebraic expressions. Mr. Major's comments to Mei help her realize that she is very good at solving algebraic equations for the variable, and this makes her feel more confident about her abilities to tackle the new challenges when Mr. Major presents her with word problems in her folder that require her to use her English to solve them.

Even test time is different in this classroom. The reviews are student focused and include a variety of questions and summarizing strategies. Mei is very relieved when Mr. Major explains to her that she'll be able to use a translator when tackling the test's word problems. Mr. Major tells Ernesto that he'll have the opportunity to complete only as much of the test as time allows; there will be no penalty for not completing every item. Because the test is sequenced by difficulty, Ernesto feels competent until the last few questions and doesn't get discouraged or feel tempted to give up. After the test, he receives additional practice materials related to the questions he found most difficult or didn't get to. Mei receives her own customized set of follow-up materials, complete with some learning extensions and exercises that ask her to apply concepts that she understands well.

The Advantage of Formative Assessment

Research supports what we all know about teacher practice and student success: student success is largely dependent on teacher practice. Jennifer King Rice (2003) asserts, "Teacher quality matters: It is the most important school-related factor influencing student achievement" (p. 1). Marzano (2003) states that "the impact of decisions made by individual teachers is far greater than the impact of decisions made at the school and district level" (p. 71).

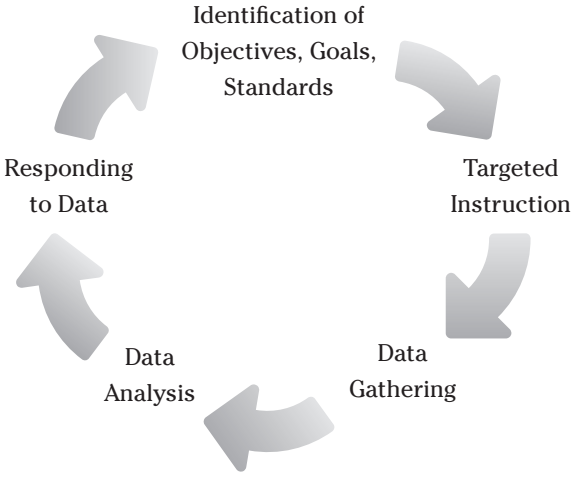
One of the primary functions of formative assessment is to inform instruction. By providing information about student understanding relative to goals, objectives, and standards, formative assessment helps teachers to target their instructions for greater effectiveness and make responsive instructional adjustments. In this respect, teaching and assessing are intertwined. The overlap is beneficial to students in that they

regularly receive feedback in the course of learning, and it's beneficial to teachers because they regularly receive information about their teaching. With formative assessment, teaching and assessing become a cyclical process for continuous improvement, with each process informing the other (see Figure A).

When asked to describe how routine use of formative assessment affects their classroom, teachers typically observe that it

- Helps focus instruction on informed priorities
- Allows for customized learning, helping to build both basic skills and high-level learning in a way that is relevant and responsive to all learners
- Encourages teachers and students to work together toward achievement
- Increases student engagement and motivation
- Ensures grades accurately reflect students' progress toward standards
- Increases coherence between curriculum, instruction, and assessment

FIGURE **A** The Cycle of Formative Assessment



The Secondary-Level Imperative

Teachers and students at both the primary and secondary levels benefit from formative assessment. Although the material in this book will be relevant to you and your students regardless of the grade you teach, I have chosen examples that emphasize formative assessment's use at the secondary level.

In elementary schools, where the instructional emphasis is on basic literacy and numeracy, teaching and tests typically align with clear curriculum standards. For example, early readers are measured on phonemic awareness, reading comprehension, and fluency. Teaching is specific to these skills, and achievement is measured through readily available measures such as DIBELS (Dynamic Indicators of Basic Early Literacy Skills). Contrast this with secondary school, where content knowledge is less explicit, and the measures are less consistent. Consider, for example, this 9th grade science benchmark in the state of Connecticut: *Understand how science and technology affect the quality of our lives.* A high school's science curriculum includes a very wide array of content, including cell structure and division, bacteria, viruses, DNA, genetics, chemistry, atomic structure, the periodic table, organic compounds, energy, heat, electricity, environmental conservation, the solar system, atmosphere, geology, and much more. Yet the standardized test for science may only have questions on sedimentary rocks, eye color, and recycling. For this reason, teachers frequently need to write their own classroom tests (Greenstein, 2005). Using formative assessment strategies can enable a school science teacher to tailor classroom assessments and teaching practices to gaps in students' mastery of the curricular goals.

But the needs of secondary schools extend far beyond curriculum, teaching, and assessment alignment. A contemporary secondary classroom includes students with widely diverse backgrounds, readiness levels, and skills. Teachers frequently must meet the needs of a class of students with a span in abilities of five or six grade levels. Formative assessment—with its emphases on pre-assessing to identify background knowledge and beliefs and on tracking individual learning—is an effective

way for teachers to customize, or differentiate, content and processes to the individual student (Heritage, 2007).

Formative assessment can also help boost student engagement and potentially reduce dropout rates. The *High School Survey of Student Engagement* by the Center for Evaluation and Education Policy (2005) at Indiana University, using data from over 80,000 students in 19 states, found that less than half of students surveyed frequently discussed grades or assignments with a teacher. Almost half did not receive prompt feedback from teachers. Only 57 percent said they frequently contributed to class discussions. Half said they agree that they devote a great deal of effort to school. And only half said they get to make choices about what they study at school. Providing frequent feedback and choices to students is an essential element of formative assessment, and research shows that as students see progress in their learning and feel supported by their teacher, they often experience a positive change in motivation (Heritage, 2007).

Recommendations of studies at the middle school level center on lack of rigor and accountability in the curriculum. *Making Middle Grades Work,* from the Southern Regional Education Board (Cooney & Bottoms, 2005), concludes that middle schools need to adhere to rigorous content that is aligned with standards and develop supportive relationships that include academic support between teachers and students. Formative assessment has been shown to contribute to both achievement of standards and supportive curriculum interventions (Black, Harrison, Lee, Marshall, & Wiliam, 2003).

Preparing students for postsecondary education and for success in our swiftly changing global economy depends on fostering higher-level and critical thinking skills. The New Commission on the Skills of the American Workforce (2008) asserts that public schools are graduating students with minimal workplace competencies. The report encourages development of analytical and creative thinking skills along with the ability to interpret information and manage people. There is emerging evidence that using formative assessment in secondary classrooms can help to bridge the gap between core knowledge and the higher-level skills of analysis and application (Partnership for 21st Century Skills, 2009).

Certainly, adopting formative assessment is not a guarantee for solving every problem facing secondary schools, but it has shown strong potential for ameliorating many of them.

What Do You Know? What Do You Want to Know?

This book is a guide for incorporating formative assessment in your instructional practices. Although there is a wealth of information available about formative assessment, there is a dearth of replicable practice, particularly at the secondary level. Workshops that I have attended implore the participants to use formative assessment. Web sites cite success stories and rationales. Books provide proclamations of the importance of formative assessment. And emerging research shows that formative assessment can be an effective strategy. Less clear, however, is how to do it.

Throughout this book, I will offer practical formative assessment strategies with specific examples of their use in secondary classrooms from grades 6 to 12 in a variety of content areas. These strategies and examples are meant to help teachers navigate through formative assessment in ways that make it useful, meaningful, and relevant in helping students make measured progress toward objectives. At regular intervals throughout the text, I will also prompt readers to self-assess, reflect on practices, and apply learning.

What do you know? is the quintessential starting question of formative assessment and a good start for any type of instruction. For our purposes, the beginning question is *What do you know about formative assessment?* In answering this question, you call up your previous learning and prepare yourself to link new learning to it in pursuit of a knowledge goal. The next questions to answer are *What do you want to know that you don't know now?* and *How will go you about learning this?* Many readers will recognize this sequence of self-assessment questions as the classic K-W-L strategy, short for Know, Want to Know, Learn.

Depending on your answers to these questions, you may wish to spend more time with some parts of the book than others. If you are seeking information to help build your foundational knowledge of formative assessment, begin with Part 1. If you are looking for specific strategies to use in

the classroom, you will find them in Part 2. And if your learning goal is school reform and policy issues, you will find this information in Part 3.

Please note that this book uses a language of assessment and a set of core concepts that practitioners must be familiar with in order to succeed in using formative assessment. These include definitions of core terms, such as *assessment, evaluation,* and *measurement,* as well as an understanding of the terms that are routinely used in articles and professional development resources, including *common formative assessment, validity, reliability, authentic, alternative,* and *differentiation.* Appendix A offers a set of definitions derived from my own work and the synthesis of conventional wisdom. Depending on your degree of familiarity with assessment, you may decide to review this glossary before reading further. Appendix B provides a quick reference to a number of formative assessment strategies, including those I discuss in the text.

I hope that this book provides some of what you're looking for in terms of learning, but I also encourage you to explore other resources given in the text and listed in the References section if a topic strikes you as one you wish to explore in more depth.

PART 1

Building Foundations

Questions to Consider

- How does formative assessment differ from summative assessment?
- What makes assessment formative? Is it the strategies used, when the strategies are used, or how the teacher applies assessment data?
- Is formative assessment appropriate in some subject areas but not others?
- What can we learn from foundational studies and reports on formative assessment, especially those published by Rick Stiggins and Paul Black and Dylan Wiliam?

Your turn: Take a quick glance at the material in this part of the book and write two other questions that immediately come to mind.

This section of the book focuses on the base knowledge that will support a conceptual shift from traditional assessment to formative assessment and its various strategies. Understanding the theory behind formative assessment practice will help you make sound decisions about using it.

Chapter 1 presents formative assessment's key principles, illustrated with some samples from classroom practice, and provides a brief history of formative assessment's development. Chapter 2 focuses on the answers to the most commonly asked questions about formative assessment.

CHAPTER 1

The Fundamentals of Formative Assessment

This chapter looks at the essential principles of formative assessment and provides a preview of best practice. Our focus here is both the content and context of formative assessment: its basic elements and some of the reasons it has risen to prominence and gained support as an effective means of improving student learning.

Essential Principles

The information in this section has been gathered from numerous sources and aligned around three significant concepts: (1) formative assessment is student focused, (2) formative assessment is instructionally informative, and (3) formative assessment is outcomes based.

In an effort not to duplicate information available in other resources, I have condensed the elements and their definitions quite a bit. If you would like to read more about the fundamentals of formative assessment, I recommend "Working Inside the Black Box" (Black, Harrison, Lee, Marshall, &

Wiliam, 2004); *Classroom Assessment for Student Learning: Doing It Right—Using It Well* (Stiggins, Arter, Chappuis, & Chappuis, 2004); and *Classroom Assessment and Grading That Work* (Marzano, 2006).

Formative Assessment Is Student Focused

Formative assessment is purposefully directed toward the student. It does not emphasize how teachers deliver information but, rather, how students receive that information, how well they understand it, and how they can apply it. With formative assessment, teachers gather information about their students' progress and learning needs and use this information to make instructional adjustments. They also show students how to accurately and honestly use self-assessments to improve their own learning. Instructional flexibility and student-focused feedback work together to build confident and motivated learners.

In brief: Formative assessment helps teachers

- Consider each student's learning needs and styles and adapt instruction accordingly
- Track individual student achievement
- Provide appropriately challenging and motivational instructional activities
- Design intentional and objective student self-assessments
- Offer all students opportunities for improvement

In practice: Students in Mrs. Chavez's English class are studying character development. They have read about Scout in *To Kill a Mockingbird* and Holden Caulfield in *The Catcher in the Rye*.

Early in the unit, Mrs. Chavez asks her students to define a character trait and give an example of someone in literature or in real life who demonstrates that trait. She gathers their examples in a list, which she posts in the classroom. This is valuable information about the starting point for the unit: in this case, it helps the teacher determine whether she needs to clarify the concept of character traits or can move on with the application of character traits to literature.

Based on the data her students provide, Mrs. Chavez decides to move forward. She arranges the class into random groups and asks each group to write all the character traits of Scout that they can think of on individual yellow sticky notes—one trait per note—and then do the same for Holden Caulfield, this time using blue sticky notes. Then each group posts their responses on the original list of traits, alongside each character trait. Areas of agreement and disagreement are discussed. Mrs. Chavez uses a questioning strategy to elicit information and to clarify any lingering gaps in understanding or accuracy. Following this, students work on their own to create a T chart for each character, using the left side of the T to list life experiences and challenges and the right side to list how these factors have influenced traits and behaviors. Note that Mrs. Chavez has done very little lecturing or whole-class teaching to this point, making for a very student-focused lesson.

Formative Assessment Is Instructionally Informative

During instruction, teachers assess student understanding and progress toward standards mastery in order to evaluate the effectiveness of their instructional design. Both teachers and students, individually and together, review and reflect on assessment outcomes. As teachers gather information from formative assessment, they adjust their instruction to further student learning.

In brief: Formative assessment

- Provides a way to align standards, content, and assessment
- Allows for the purposeful selection of strategies
- Embeds assessment in instruction
- Guides instructional decisions

In practice: During a high school social studies unit on the development of American nationalism after the War of 1812, Mr. Sandusky uses a series of assessments to monitor his students' developing understanding of the presented material. Mr. Sandusky begins with a pre-assessment focused on content similar to what students will encounter in the final

selected-response test. After reviewing the pre-assessment data, he concludes that his students either remember little of their prior learning about the material or haven't been exposed to these topics before. He had intended to begin the unit with a discussion of how the popularity of "The Star-Spangled Banner" fueled nationalistic spirit but decides to alter those plans somewhat by having students read articles about the War of 1812, grouping them by readiness and assigning purposefully selected readings. One group reads about the reasons the United States and Britain went to war, another reads about specific events that occurred during the war, and a third reads about Francis Scott Key. Each group reports out, sharing information with the rest of the class.

As the unit progresses, students keep track of their learning and assignments on a work-along, turning it in to Mr. Sandusky every day for a quick check. For example, they describe causes of the war, answer a question about Key's motivation to write "The Star-Spangled Banner," and note the location of the battle he observed (Baltimore's Fort McHenry). This is followed by a Corners activity where students pick different lines of the song to analyze and respond to in terms of relevance to current events. Later, after a discussion of the diverse opinions on the War of 1812, the teacher asks students to report one pro and one con viewpoint. To probe students' understanding of the significant outcomes of the war, he asks the class to describe three specific changes in the power of the U.S. government that resulted from the war. In these activities, Mr. Sandusky works to align his formative assessment questions with the lesson's specific objectives, incorporate the questions into instruction, and use the information to guide future instruction.

Formative Assessment Is Outcomes Based

Formative assessment focuses on achieving goals rather than determining if a goal was or was not met, and one of the ways it does so is by helping to clarify learning goals and standards for both teachers and students. Teaching and learning are based on these standards. Students know the criteria for meeting the standards and are frequently shown exemplars.

Teachers give frequent and substantive feedback to students about their progress, pointing out both strengths and areas that need improvement. Teachers plan steps to move students closer to learning goals. Work is assessed primarily on quality in relation to standards rather than student attitude or effort.

In brief: Formative assessment

- Emphasizes learning outcomes
- Makes goals and standards transparent to students
- Provides clear assessment criteria
- Closes the gap between what students know and desired outcomes
- Provides feedback that is comprehensible, actionable, and relevant
- Provides valuable diagnostic information by generating informative data

In practice: A curricular standard for 10th grade Biology requires that students understand the chemical basis of all living things. In her classroom, Ms. Jefferson asks students to track their progress toward the specific objective of describing, comparing, and contrasting the molecular structure of proteins, carbohydrates, and fats. The applied learning comes from explaining how these differences are exhibited by foods that students eat every day. Ms. Jefferson uses a signaling activity to get a baseline assessment of where her students stand; afterward, she delivers a traditional lecture, beginning the lesson (as she will all lessons) by stating the specific learning outcome students are expected to master and then focusing on transitioning students from what they know to what they need to know. Students keep a record of their learning by recording specific content knowledge in lab report notebooks. In one section, they draw the molecular structure of proteins, carbohydrates, and fats. Later in the unit, they watch a video and fill in a provided empty outline and then complete a lab in which they test a variety of foods for the presence of proteins, carbohydrates, and fats and report their findings in their lab notebooks. Ms. Jefferson reviews these notebooks regularly to monitor student

progress and understanding, provide specific feedback, and inform her instructional decisions. Other formative assessment strategies she uses include Bump in the Road and Feathers and Salt.

A Brief History of Formative Assessment

As with most effective teaching methods and practices, individual teachers have probably used formative assessment throughout history. Indeed, we could claim Socrates as an early practitioner. Peppering his students with questions that probed and provoked, he used their responses to measure their learning and guide his instruction; this is the primary attribute of formative assessment.

Although teachers have long used strategies like the Socratic method and other forms of meaningful questioning, the term "formative assessment" is a relatively new one. Its contemporary use is often traced to Michael Scriven (1967), who used "formative" and "summative" to indicate differences in both the goals for collecting evaluation information and how that information is then used. Scriven explained that while a program is in the planning and developmental stages, it is still malleable, and the information gathered from evaluation can therefore contribute to change in the program. He called evaluation for this purpose of improving "formative." Once a program has been created and implemented, Scriven argued, evaluations can only yield information to determine whether the program has met its intended goals. Scriven called this final gathering of information a "summative evaluation."

Benjamin Bloom was one of the first to apply the concepts of formative versus summative to educational assessment, helping to lay the foundations for the concept of mastery learning (Bloom, Hastings, & Madaus, 1971). The purpose of mastery learning was to ensure that students didn't move forward to the next level of learning until they had demonstrated mastery of the learning objectives set for the current level. This concept, in turn, became the basis for modular instruction, widespread in the 1970s, in which students learned from self-directed packets, or modules of instruction. When a student successfully completed one packet, he or she could

move on to the next packet, proceeding through modules until all objectives were met. In theory, mastery learning resembles today's scaffolding, but in practice, students worked mostly in isolation without much teacher support or peer interaction.

In the decades following, formative assessment began to be more widely explored. States considered ways to embed it in standardized tests. Bloom continued his theoretical work, examining several issues relating to formative assessment. He identified two essential elements of formative learning: feedback for students and corrective conditions for all important components of learning (Bloom, 1977). He also argued that formative information could be used to divide the class into cooperative groups based on the corrections required. From this point, teachers could differentiate instruction to meet the needs of individual students through selected teaching strategies and corrective responses (Bloom, 1976).

In New Zealand, Terry Crooks studied the effect of classroom assessment practices on students and reported on their potential to emphasize what is important to learn and positively affect student motivation. Crooks (1988) asserted that classroom assessment "appears to be one of the most potent forces influencing education. Accordingly it deserves very careful planning and considerable investment of time from educators" (p. 476). Around the same time, Sadler (1989) reasoned that assessment is most effective when students can monitor the quality of their own work through specific provisions that are incorporated directly into instruction.

Perhaps the biggest step forward in the embrace of formative assessment came in 1998, when Paul Black and Dylan Wiliam completed a meta-analysis of more than 250 research studies on the topic. Their findings, published as "Inside the Black Box," make a compelling case for formative assessment. Black and Wiliam's review concluded that "there is no other way of raising standards for which such a strong prima facie case can be made" (1998, p. 148).

"Inside the Black Box" led the way for many educational leaders to define and apply formative assessment in classrooms, not just in the United States but throughout the world. New Zealand, Australia, and Great Britain have been especially strong leaders in this movement. The recent

groundswell in interest and information is creating an imperative to change how we think about and use assessment.

Evidence for Formative Assessment

The 1998 Black and Wiliam study provided evidence that formative assessment can make a difference in learning outcomes at all grade levels. This review of research studies, journal articles, and book excerpts concluded that "formative assessment shows an effect size of between .4 and .7, the equivalent of going from the 50th percentile to the 65th" (p. 141). An effect size is a comparison of a range of scores of students exposed to a specific practice to those of students who were not exposed to the practice. Black and Wiliam drew additional conclusions, each of which is worthy of further research:

- The success of formative assessment is highly related to how teachers use it to adjust teaching and learning practices.
- Effective learning is based on active student involvement.
- Enhanced feedback is crucial to improved outcomes.
- There is a link between formative assessment and self-assessment.

More information about the Black and Wiliam study is available through the Web site of Kings College London (www.kcl.ac.uk/schools/sspp/education/research/groups/assess.html).

At the National Research Council, Bransford, Brown, and Cocking's work *How People Learn* (1999) became the basis for the book *Knowing What Students Know* (Pellegrino, Chudowsky, & Glaser, 2001) and drew the following conclusions:

- An assessment plan must come first, not last, in the educational process.
- Assessment, by necessity, integrates knowledge, skills, procedures, and dispositions.
- Assessment as a diagnosis of student progress shifts the emphasis from summative to formative.

In a follow-up to "Inside the Black Box," Wiliam, Lee, Harrison, and Black (2004) examined the achievement of secondary students in math and science who were exposed and not exposed to formative assessment. Teachers involved in the study were trained and supported in their use of classroom-based formative assessment. The research team measured the effects of formative assessment on learning outcomes and found a mean effect size of 0.32 when exposed to the intervention. Also in 2004, Ruiz-Primo and Furtak measured the effect of three formative assessment strategies—eliciting, recognizing, and using information—in the science classroom. They found that the quality of teachers' formative assessment practices was positively linked to the students' level of learning.

The research base for formative assessment will continue to grow, and we look forward to additional data that can strengthen the case for assessing formatively, help confirm best practices for teachers, and pinpoint the most effective strategies for responding to data and for measuring formative assessment's effect on learning outcomes.

Moving Forward with Formative Assessment

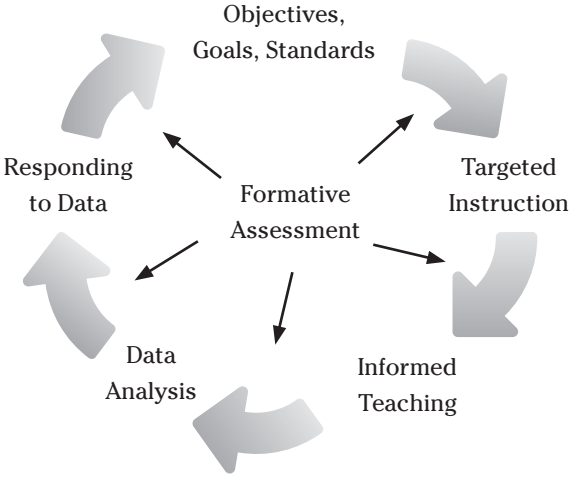
In recent years, recommendations for including high-quality formative assessment as an integral part of a larger and more balanced assessment system has come from many groups and organizations, among them the Joint Committee on Standards for Educational Evaluation (2002) and the National Council on Measurement in Education (1995). Content- and level-specific organizations, such as the National Council of Teachers of Mathematics, the National Science Teachers Association, and the National Middle School Association, have also endorsed formative assessment as a way to advance learning.

Although influential organizations and education thought-leaders have reached a general consensus about the benefits of formative assessment, teacher education and training efforts lag behind. As research has shown, teachers get little training or support in assessment and often turn to their untrained peers for information (Black & Wiliam, 1998; Shepard, 2000; Stiggins, 2001, 2002), and we are left with a gap between what we know is

effective assessment practice and how most teachers use assessment in the classroom. This deficit in teacher knowledge and practice was the basis of my own doctoral dissertation, in which I concluded that secondary teachers continue to use traditional summative assessment that infrequently aligns with recommended strategies. Shepard (2000) summed it up well when she quoted this observation by Graue (1993): "Assessment and instruction are often conceived as curiously separate in both time and purpose" (p. 4). The key to high-quality formative assessment is to intertwine the two. What teachers and students need is assessment and instruction that are conceived as a unit, employed as a unit, and applied as a unit.

The most important thing you can take away from this discussion of formative assessment is the understanding that no single principle makes assessment formative. It is through the weaving together of all the principles that high-quality formative assessment arises and the blending of assessment and teaching occurs. For a quick overview of what these components look like woven together, see Figure 1.1, which shows the general flow of formative assessment principles.

FIGURE **1.1** The Cycle of Instruction with Formative Assessment



Now let's consider what the cycle of instruction might look like in practice. A teacher preparing for a discussion of current events in an English, social studies, or other class might produce the following plan. (You may not be familiar with some of the plan's strategies, but I will present these in more detail in Part 2 of the book and in the lexicon of strategies in Appendix B.)

Objective, Goal, Standard: Differentiate fact from opinion in written text.
Formative Strategy: Signaling in response to simple sentences read aloud by the teacher.

Targeted Instruction: Identify points of fact as contrasted with expression of the author's opinion in a newspaper editorial.
Formative Strategy: A Corners activity in which the teacher reads more complex sentences and students express their response by going to Fact or Opinion corners. One student in each group presents the group's opinion, and the teacher leads a follow-up discussion.

Informed Teaching: The teacher gives examples of how writers extend fact into opinion along with guidelines for distinguishing fact from opinion. Students read selected text, color-code examples of fact and opinion, and record their responses in their work-alongs.
Formative Strategy: A Think–Pair–Share activity in which students create a color-coded T chart with facts on the left and opinions on the right. This is followed by a whole-class review of the charts to reach consensus.

Data Analysis: The teacher uses data gathered to chart individual and group learning outcomes and target areas of misunderstanding and areas where students need additional challenge.
Formative Strategy: A chart of students' progress, capturing and reflecting on data gathered during Signaling, Corners, the work-along, and the T chart.

Responding to Data: The teacher adjusts instruction and assessment as needed to readdress the objective more effectively.
Formative Strategy: Adjustment to content/resource level of difficulty, grouping students for additional practice or expanded learning, and differentiating the final assessment.

Finding the Balance in Assessment Systems

Large-scale accountability measures have been and will continue to be with us for a long time. The use of formative assessment does not preclude

standardized testing but, rather, contributes to a balanced assessment system. Summative assessment has traditionally asked students to definitively express what they know. It's akin to asking, "Are we there yet?" or, "Have we arrived at the intended learning destination?" In comparison, formative assessment asks what route we are taking to reach the goal and in what way the teacher can assist in the journey.

Formative assessment gives teachers continual information on student progress—information that supports decisions about how much and what kind of learning, support, and practice students need to reach the goal. In this model, assessment data come from a variety of activities, rather than from a single assessment at the end. While formative assessment and summative assessment serve the same learning goals, the former is an ongoing process and the latter is a finale: the finish line at the end of the race.

The use of standardized tests alone as the measure of knowledge does not typically lead to improved learning. There is little evidence that standardized tests have raised student achievement except in a few narrow areas, primarily at the elementary level. SAT scores have been generally consistent for many years, and most state standardized test results have flattened out during the past few years. If we want better standardized scores or higher final achievement for our students, we must begin at the classroom level. Research shows that the pathways to school improvement are lined with formative assessment. Students need constructive feedback on how to achieve the targets and guidepost measures along the way, not simply feedback on whether they reached the targets or not. It is formative assessment rather than summative assessment that will make the greatest difference.

As you come to the end of this chapter, please take a moment to consider the questions you may have about the fundamentals of formative assessment. You may want to review any section of this chapter that was not clear to you or move on to Chapter 2, which answers many frequently asked questions about using assessment formatively. Your question may be addressed there.

What Teachers REALLY need to know about Formative Assessment



What does formative assessment look like, and when should I use it? What kind of planning does it require, and what kinds of data does it generate? How will formative assessment improve my teaching and help my students succeed in a standards-based environment? How does it relate to my application of multiple intelligences theory, to differentiated instruction, and to everything else I'm already doing in my classroom?

In this volume, author Laura Greenstein has gathered what you really need to know in order to make formative assessment a seamless part of your everyday practice. Emphasizing formative assessment application in secondary schools but applicable to teachers of all grade levels and all subject areas, this book provides

- Straightforward answers to teachers' most frequently asked questions
- Dozens of strategies for measuring student understanding and diagnosing learning needs before, during, and after instruction
- Illustrations of formative assessment across the content areas, from math to language arts to science to social studies to health and physical education
- Guidance on making data-informed instructional adjustments
- Sample templates for organizing assessment data to track both whole-class and individual progress toward identified goals
- Case studies to illustrate effective and ineffective formative assessment and deepen your understanding.

If you're looking to take formative assessment from theory to practice—and from practice to genuine learning improvement—this is the place to begin.

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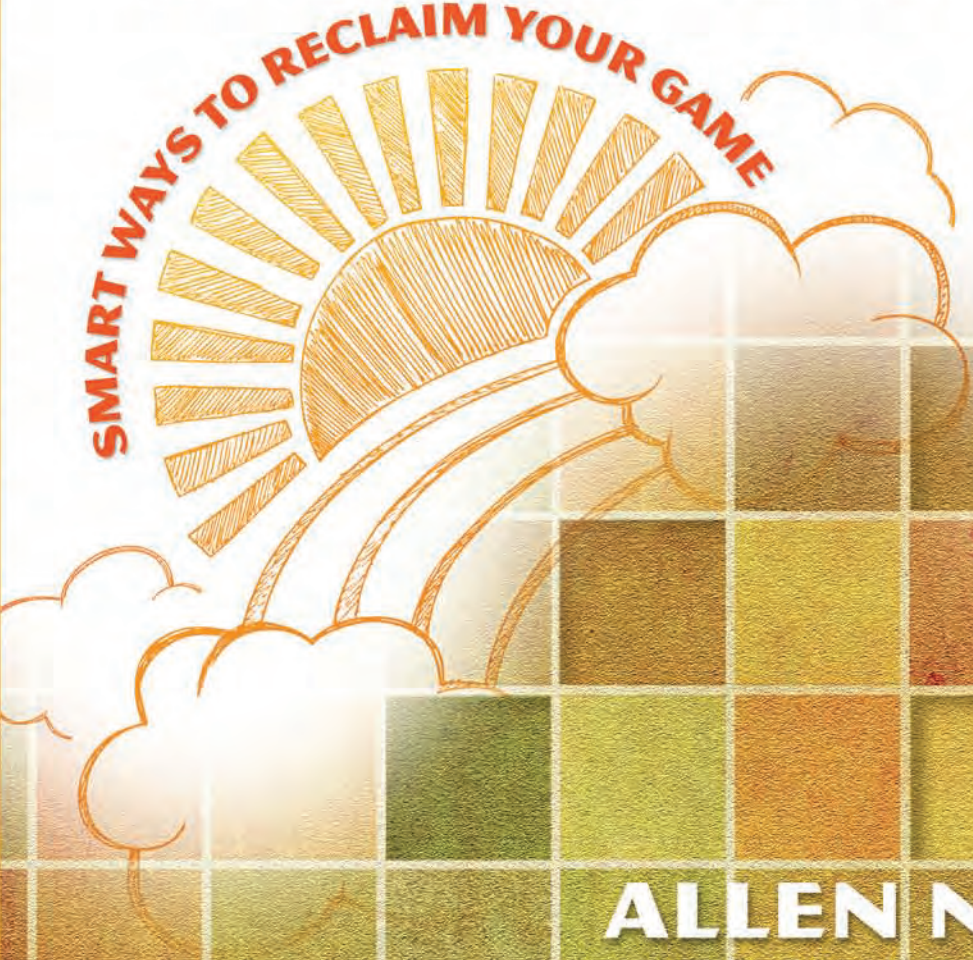

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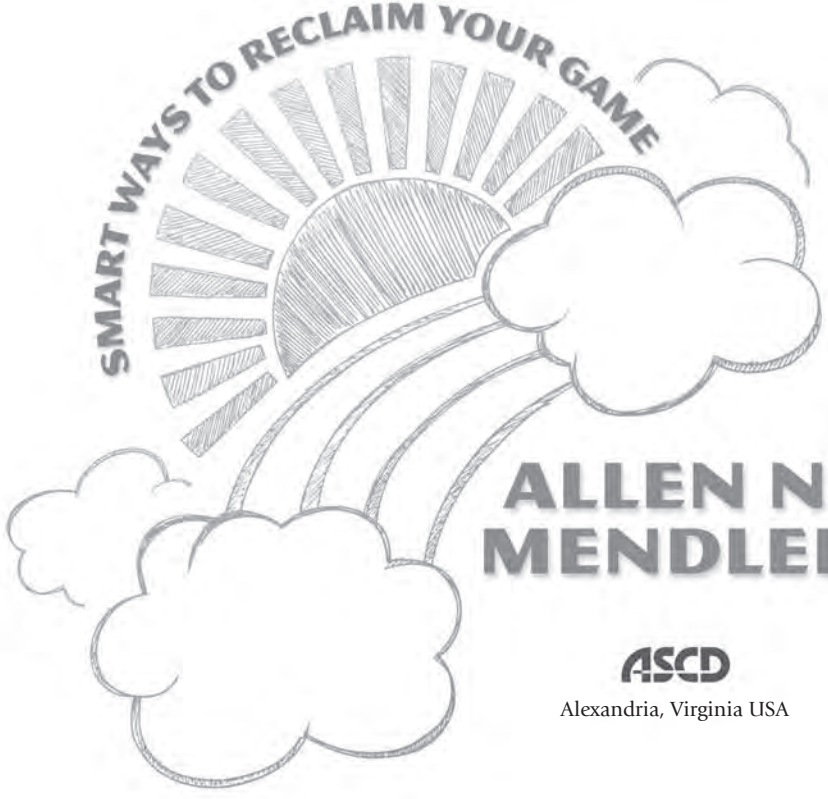

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This book is dedicated to Barbara Mendler,

my wife, best friend, and great teacher.

It's been a great ride, and

it keeps getting better.

WHEN TEACHING GETS TOUGH

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Introduction

For the Teacher

Are there days when you feel overwhelmed by some combination of unruly or poorly motivated students, parents who either give you a hard time or simply aren't to be found, and never-ending classroom distractions? Do you feel frustrated by burdensome meetings that accomplish little but eat up a ton of time? Are you getting tired pleading and scavenging for basic school supplies? Do you ever wonder if anybody notices or even cares how much effort you put out on a daily basis? Is there a knot in your stomach that tenses every time you hear faculty room chatter dominated by toxic colleagues bashing somebody or something? Do you often feel like a battered boxer, struggling to survive an onslaught of excessive paperwork and competing demands? Have you gotten to a point where you are fed up and think about quitting? Or have you emotionally left, but you hang on because you don't know what else to do and you need to pay the bills? If you answered yes to any of these questions, this book is written for you.

In my 35-plus-year career as a teacher and a school psychologist, I have worked with thousands of students from preschool through high school, including those with just about every label

and acronym we have ever invented: LD, ED, BD, SBD, ADD, ADHD, ODD, PDD, and JD. I have sat in on innumerable discussions debating the pros and cons of virtually every literacy and curricula program there is, trying to decide where the dollars would best be spent. I have attended numerous conferences and read extensive research that touts one program or another as a superior way to increase student achievement and reduce behavior problems. In search of the best way to present curriculum, I have explored class size; traditional scheduling, block scheduling and modular scheduling; small-group instruction, large-group instruction, and individualized instruction; and reading labs, writing labs, and math labs. Frankly, what I have found is that with all the emphasis on using supposedly research-based teaching methods, virtually none of these methods really makes much of a difference. Little of what is emphasized actually connects to great teaching and learning. In fact, scholar and author John Goodlad, who looked at 40 years of educational innovations while at UCLA, did not find a single one that increased student achievement.

The only thing that increased student achievement was the effectiveness of the teacher (Goodlad, 1994). And students are most likely to succeed with teachers who know their stuff and can express themselves in an articulate way, convey confidence fearlessly, have a sense of humor, are well-organized, have high expectations, are willing to risk doing things differently when necessary, and realize they are as much performer as instructor. These teachers value listening to and connecting with their students, which enables them to push harder, and they refuse to give up when kids are giving up on themselves.

Teaching is tough. Very diverse classrooms with academically and behaviorally challenging students, limited parent or administrative support, blame for low test scores, and little say in curriculum decisions are but a few of the obstacles we face in being able to do our jobs as well as we possibly can. Virtually every piece of data on stressful occupations puts teaching at or near the top. While

there are many ways to cope with stress, it is becoming increasingly common for teachers to simply get disgusted and leave. Some leave to teach at a different school, others to teach at a different level, and some to work at a different occupation. Perhaps even more of us leave psychologically, counting down the days until the end of the year. Some of us aren't well suited to the many demands and need to leave for our own well-being and the larger good.

It bothers me to lose great and potentially great teachers to the variety of frustrations that when handled differently can change dread to wow! Although there is no singular blueprint for all, there are many things you can do to improve your effectiveness (which is probably fine if you are a great teacher) and more importantly, your outlook (which is probably more negative than it should be). Most of the strategies covered in this book are entirely new, while a few are from prior books I have written. I like to think of this book as one resource that cuts right to the chase and offers excellent but overwhelmed teachers practical strategies that can be used right away to make things better. Each chapter also offers suggestions for administrators to help good teachers who are struggling. The book is purposely light on theory and rich with ways to regain enthusiasm and optimism. The goal is focusing on what works in an easy-to-read, easy-to-implement format to help you reclaim the feeling of satisfaction and sense of accomplishment that all teachers long for and deserve.

For the Administrator

Some school districts are currently experimenting with merit pay and other cash incentives to attract and retain their best teachers. Although the jury is still out on its effectiveness, common sense suggests that paying more is a tangible reward that provides obvious benefit to the recipient. Business works on this premise all the time. Yet even if all school districts paid their best teachers more money, there is ample research in the behavioral sciences literature

that has shown money alone to be an insufficient incentive for sustaining top-notch performance. Favorable working conditions, appropriate challenge, support from colleagues, and recognition from above for a job well done are practices generally seen in organizations that are able to get and keep their best employees. As you well know, excellent teachers are a treasure that not only benefits your students but also makes your job easier. Great teachers are hard to come by, and it is obviously in the interest of every administrator committed to high achievement and happiness to do whatever is necessary to keep the best teachers satisfied, energized, and enthusiastic.

Researchers from around the country have attempted to examine every variable in schools that makes a difference in the achievement of students. Why is it that some teachers can regularly raise their students' test scores for children of the same race, class, and ability level while other teachers get below average results every year? Why do some teachers derive much better results than others who use the same reading or math program? How is it that some teachers can work magic with their students while others who teach the same kids struggle mightily? In an article in the New York Times Sunday magazine, Elizabeth Green (2010) shares data on the impact of effective teachers. Eric Hanushek, a Stanford economist, found that while the top 5 percent of teachers were able to impart a year and a half worth of gains in learning in one school year as assessed by standardized tests, the weakest 5 percent had students show only a half year of advancement each year. William Sanders, a statistician studying Tennessee teachers, found that a student with a weak teacher for three straight years, on average scores 50 percentile points behind a similar student with a strong teacher for those years. Zavadsky (2010) found that attracting and retaining effective teachers was one of five factors associated with significantly raised achievement and a narrowing of the achievement gap in urban schools. Clearly, these studies present severe limitations in exclusively linking teacher effectiveness to student performance on

standardized tests. But in every school that has employed me or to which I consult, virtually every administrator, parent, student, and teacher can quickly identify the best teachers (these aren't always the ones that have the kids with the highest test performance) on request. These are virtually always the teachers that are able to get the best each student can give while considering a host of variables that impact learning.

Over the years, I have been privileged to observe what some of our best teachers do. In my other books, I have shared motivation and classroom management practices these teachers use to achieve success with difficult students. In this book, I share what teachers (and you) can do for themselves when some combination of difficult students, lack of adequate resources, and too little appreciation gets them down. Although this manuscript is written primarily as a self-help tool, your support as an administrator or resource person can be invaluable. For many excellent but stressed teachers, you can help by sharing some of the problem-solving strategies for such common issues as managing difficult students and challenging parents, differentiating instruction for classes filled with diverse learners while maintaining high standards for all, and finding alternatives when faced with inadequate materials. Most of the time, affirmation and appreciation for a job well done is all a good teacher really needs. Who better than you to provide this? You will find many suggestions throughout the book that you can use to make your teachers feel noticed, appreciated, and supported.

CHAPTER ONE

The Big Picture: Attitudes and Strategies

If you want your life to be a magnificent story, then begin by realizing that you are the author and every day you have the opportunity to write a new page.

Mark Houlahan

I was recently consulting at an inner-city middle school and was asked to visit Ms. R's class, which was identified as one of the toughest. Apparently, the day before, she was practically reduced to tears due to their noncompliant behavior. Expecting the worst, I was surprised to find the students relatively well behaved. Many were involved in the interesting video of tornadoes that began the day's lesson, and then were very animated when the metaphor of an angry mother representing a tornado was presented by Ms. R. Kids talked openly about their relationships with their mothers, some expressing lots of love, others telling about how they boss their mothers around, while still others talked about preferring to be swept up by a real tornado rather than facing an angry mom.

About 35 minutes into the 45-minute period, Ms. R somehow connected the lesson to how she was feeling right then and expressed her delight at their positive behavior throughout the

day's class. She told them that she actually felt like crying at the joy she was feeling. She then told them how different yesterday was, being very open about how upset she felt and how, as she left school the day before, she wondered why she even bothered to teach. As she went on with this for a few minutes, you could hear a pin drop in the classroom. Every single student was completely mesmerized by what they were hearing. A few minutes after she finished, some of her more difficult students began to revert back to their irritating behaviors.

Attitudes Are as Important as Strategies

The point of this story is that attitudes are at least as important as strategies when you are in difficult situations. Perhaps the two most important attitudes for teachers are:

1. Live each day as if there is no tomorrow
2. Understand that change is a roller-coaster ride

I observe many committed teachers lose their enthusiasm for teaching because they don't take it one day at a time. If you have a particularly difficult class or you are surrounded by too many toxic colleagues, it is easy to get discouraged and depressed if you start thinking about the many tomorrows that are ahead. Nobody in the midst of stress wants to think about how there are still six months left to the school year or 25 years to go until retirement. Teachers need every ounce of positive energy and enthusiasm they can muster. If things are tough, you might begin to think about other life options for yourself or apply for other jobs. Keep the door open to change, but approach each day as if there is no tomorrow. Only then will you have the grounding to live in the moment without being emotionally scarred with what happened yesterday. Take a second and look around. Volunteer with Special Olympics or Big Brothers/Big Sisters. Get outside your own little world and realize that while things are difficult right now, overall you have your

summers off, never work weekends or holidays, have a very nice pension, and are blessed to have a career where you can drastically influence and change lives every day. As columnist Leonard Pitts Jr. writes (2011), "Get done what you came here to do, give the gifts you meant to give, do the good you're able to do, say what you need to say, now, today, because everything you see is temporary, the clock is ticking and the alarm could go off any second." Teach with BEEP—belief, energy, emotion, and passion every single day, as if it were your last on this beautiful Earth. Finally, realize that changing behaviors is almost always very difficult. It is a roller coaster ride of ups, downs, loops, and corkscrews. For the teacher, it is like being on the roller coaster blindfolded. Rarely do we know when the twists and turns will come. Virtually all people, including you and your kids, revisit old behaviors as they are acquiring new ones. It is quite likely that Ms. R's kids who started acting out after hearing her touching story were saying, "Don't expect me to be good always just because I've been good today. I'm not ready to be good always."

FISH!

The wonderful and highly effective FISH! program that guides employees at the Pike Market in Seattle, Washington, emphasizes four primary attitudes when treating customers and coworkers. Unlike any other store that sells fish, this one is special. For me, spending time in a store that sells fish would not normally be a priority. Yet this market is a fun place to be. Although it looks and smells like a fish market, it feels more like a playground for adults. Customers not only come to buy fish, but also see the market as a fun place to hang out. As described in the book *FISH! Tales* (Lundin, Christensen, Paul, & Strand, 2002), the fish philosophy is all about how employees should treat customers: *choose your attitude, play, make their day,* and *be present.* I believe these same attitudes are at the core of successful and satisfied teachers. The best teachers view their students as the most important customers they have.

Although most of the book is about strategies, we begin with attitudes since attitudes are the fuel that makes the engine go.

1. Play

Employees at Pike are encouraged, and in fact required, to have fun with each other and with their customers. It is not uncommon for employees to be cracking tasteful jokes and playfully tossing fish to customers and each other. They make time to play, bringing energy and fun along with commitment to the job.

At the Longaberger Company, a maker of handcrafted baskets and other home products in Newark, Ohio, there is an unwritten policy that employees are to take up to 25 percent of each work day having fun. If this practice was implemented in school, at least one and a half hours every day would be primarily about fun. When I interviewed a few employees to confirm this practice, one of them told me that when management tells employees that that they are having too much fun, it is not uncommon for an employee to answer, "I'm just getting in my 25 percent." Morale seems very upbeat there. Children do not question whether they should have fun; they just do it. Yet, if you ask one of your friends to do something just for fun, you are likely to hear, "I wish I could, but I'm too busy." Like an elite athlete who is not only talented in what he does but also loves doing it, satisfied teachers find ways to enjoy what they are doing and will often create their own fun. Look for ways to inject fun into as many things as you can while you teach. Laugh with your kids. Enjoy their quirky ups and downs. Revel in their youth, dreams, and naiveté.

2. Make their day

Employees are expected to take good care of their customers so they will want to come back. Within reason, employees do whatever they can to please the customer. Naturally, there are

limitations. If customers come looking for produce in a fish market, they have to be redirected. Satisfied teachers know that their most important customer is the student. When students feel fulfilled, it makes our job a lot easier. Try to make everyone you come into contact with want to be around you. Take the advice of the noted business guru, Stephen Covey in *Seven Habits of Highly Effective People* and create an "emotional bank account" in which you "give before you get" (1989, p. 188). Ask yourself about everyone with whom you interact: how can I make their day? How can I make this person's life better? Because you are an excellent teacher, you likely do this naturally with most people anyway, but when our batteries are low, we tend to become more self-absorbed. It can help to think about a store or place you love to be. What happens that makes you want to be there? How do the people treat you? For most of us, the most important thing is to feel that others care about us. They notice us through a kind word or caring gesture, letting us know that we matter to them. Often, just some simple acknowledgment that lets each one know that you think he or she is special does the trick. A friendly greeting can go a long way. Making their day will usually make yours!

3. Be there

Employees are expected to be fully present: physically, emotionally, and behaviorally, tuning out distractions unrelated to their work so they are aware of what their customers are saying, thinking, and feeling throughout the day. One more quality is required for greatness as a teacher: passion. It is important to love what you teach and teach what you love so that your knowledge and energy comes as much from your heart as it does from your head. Passion inspires learning. By the time it is fifth period or later in the day, it is understandable that your energy might naturally be lower. So it may require a conscious effort to be on your game as much then as you were earlier in the day. More importantly, be there for

yourself by appreciating what you are doing—even on days when no one else seems to care. Most days, you are the best person to congratulate yourself on a job well done. Recognize what you need and figure out the best way to get it. Try to remember that others are probably struggling even more than you are to feel good about what they are doing and about themselves. Therefore, they may not be giving you the support you need.

4. Choose your attitude

While events that happen are often beyond our control, how we react to the events is almost always within our control. This was evident during one of my visits to the fish market. An unsuspecting patron was hit in the face by a flying tuna. The worker/thrower was mortified as the customer cupped her face in her hands. After a few tense seconds, her hands lowered to show a face hysterically laughing. "I didn't know you guys actually throw the fish! That is so awesome. Trust me, I will be ready next time," she said. The attitude this woman chose made what would have been a tense situation into a laugh fest.

How do you react when an unsuspecting cuss word or incomplete homework assignment hits you in the face? Each and every one of us decides the attitude we take in every situation. We can and sometimes do blame others, events, or circumstances, but at the end of the day, we are the masters of our own fate. If you are up at 6:00 a.m. and feeling groggy, you can choose to be grumpy about it or you can get over it and remind yourself how lucky you are to have your health and the myriad of other fortunes that are easy to take for granted. Earlier, I wrote that one aspect of being a great teacher is performing or playing a role. Sometimes performers must act out a role even if it is not how they are really feeling. Sometimes this is necessary! Do you smile or scold when a student walks in late? Do you laugh or yell when a student calls you a name? Realize you don't always have to feel a certain way to act

a certain way. We can choose how to be with our students, colleagues, and parents, no matter who they are or what they do. For example, try smiling even when you don't feel like it. You might notice that what you do can change the feelings you have. We can sometimes bring the emotion along by changing our behavior rather than waiting for the feeling to change. Attitudes can change feelings. You can choose to see someone as stubborn or strong-willed, lazy or easy-going, belligerent or persistent, threatening or challenging. The lens we look through determines what we see and affects how we react. Great leaders are able to rally people to a better future.

Teachers' Attitudes

There is a good likelihood that if you have been a successful teacher with a feeling of fulfillment, the above four attitudes are a reflection of who you are. You are either built this way or you have learned well from others. Your success can be attributed to the fact that teaching has enabled you to be playful and present for your students. Although things haven't always gone your way, you have felt in charge of who you are and what you do. Your greatest satisfaction has come from seeing the glow on the face of the kid who finally gets it, the relief from the burdened student who trusts you enough to confide in you, and the fun you experience when you go to your place of work realizing that an important part of your job requires you to think, feel, and sometimes even act like a kid. Just as likely, if there are growing doubts about whether teaching remains the right career for you, one or more of these attitudes is being chipped away by people, events, or circumstances that may or may not be directly within your control. Keep in mind that changes in behavior often *precede* changes in beliefs, attitudes, habits, and expectations (Kotter & Cohen, 2002; Fullan, 2007). As noted by Patterson, Grenny, Maxfield, McMillan, and Switzler (2008), the change process begins by asking, "In order to improve our existing situation, what must

people actually do? (p. 26)" A good place to start reclaiming your enthusiasm is to recognize how your thoughts, expectations, or behaviors are getting in the way and then figure out what you can actually do to change them.

Four Major Challenges and Strategies to Deal with Them

After my many years of observing, counseling, and advising teachers, four major issues stand out as factors that lead to teacher dissatisfaction. Each section of the book addresses one of these challenges. All contain problem-solving and coping strategies to keep you energized or reawaken your BEEP (belief, energy, enthusiasm, passion).

1. Difficult, disruptive, or unmotivated students with or without a sense of entitlement

By far, the most frequent complaint among teachers is disruptive or unmotivated students. Effectiveness as a teacher and feelings of satisfaction can often be derived by focusing on six factors:

- Relationship
- Relevance
- Responsibility
- Success
- Safety
- Fun

The more you are guided by these six characteristics in your curriculum and in your interpersonal moments with students, staff, and parents, the better your chances are of having motivated and well–behaved students. Because teachers spend the bulk of their time with students, when students want to learn and want to behave, most teachers feel fulfilled and are happier. Although it is not the only cause of burnout, without question, unruly,

unmotivated students is the number one cause for most teachers. Because of this, many strategies (which I will explain in Chapter 2) focus on how to deal with difficult students and manage your classroom most effectively. Chapter 2 also provides practical strategies to make your classroom a place where both you and your students want to be.

2. Little support and appreciation from colleagues, administrators, and parents

There are few tangible external rewards available to teachers. Virtually all teachers make the same money and receive the same benefits, which are based on seniority rather than merit. It is amazing that even the best teachers are rarely noticed by administrators, thanked by parents, appreciated by colleagues, or recognized by their pupils for the myriad of things they do to enrich the lives of their students. In fact, those teachers who become the best at working with the hardest to reach students are often rewarded by being given even more such students with no more support or resources. If that wasn't enough, too often adults who should be supportive and appreciative are irritating and blaming. You will learn how to seek support from others, but more importantly how to provide your own self-nourishment regardless of the environment around you. Chapter 3 contains strategies to defuse hostile parents, colleagues, and administrators.

3. Lack of resources to do the job most effectively

Availability of resources varies by school and by district, with wealthier schools usually having an abundance of the best supplies and materials while less wealthy schools often struggle to provide updated textbooks to students. In some schools, it is not unusual for teachers to change classrooms each period, making it extremely

difficult to keep organized. Some schools have a bright, cheery feel of openness due to updated construction, sun-splashed vaulted ceilings and brightly decorated walls, while others look like condemned institutions.

One of the challenges some of us face is how to access more materials when we need them and how to brighten a dreary environment. Additional resources for teaching are often best secured through enhanced professional development opportunities. Like great doctors, great teachers need continuous training to keep abreast of the latest pedagogical methods and technological advances. Yet with schools always subject to the vagaries of the larger economy, professional development is one of the first things to go when budgets are tight. Complicating matters, the presence of inane policies and unrealistic expectations are often enough to drive away some of our best. Chapter 4 explores how to secure the best resources you can and survive the rancor of misguided policies, procedures, and expectations that can steer even the best teachers off course and make them want to throw in the towel.

4. Inability or unwillingness to make yourself a priority

There is only so much that individual teachers can do to change the system or other people. It may be human nature to think that the "grass is always greener." However, when we get up close to the other side, we often realize that the grass is just as green or brown there as it was in the place we just left. There are certainly exceptions, but if you are good at what you do yet you are feeling stressed out or disillusioned, it may be that teaching is a great fit for you, but you need to take better care of yourself.

Great teachers are notoriously good at nurturing others but not necessarily good at nurturing themselves. A top-notch teacher needs to take top-notch care of herself to remain top-notch. This can be accomplished through physical exercise, better nutrition,

and healthy activities that can calm your mind. Fortunately, there is much you can do to enliven and reawaken your own spirits that is largely independent of your surroundings. Chapter 5 offers healthful activities for the mind and attitude adjustment strategies that will help keep you level-headed and emotionally responsive even when you can't directly change the people or circumstances around you.

The book is designed for each of the subsequent chapters to stand on its own. You do not have to read one to benefit from another. So move about depending on what you suspect is the biggest obstacle to satisfaction for you and explore, learn, and practice those strategies. For example, if you primarily find yourself dissatisfied over a lack of support from colleagues or administrators, go right to Chapter 3.



Questions for Reflection

1. If the road to satisfaction is *choose your attitude, play, make their day,* and *be present*, on a scale of 1–5, where do you rank on each measure?

2. What are the obstacles at school or in your mind that prevent you from moving in the direction of any or all of these attitudes? Can you think of any ways to address these obstacles?

3. If there was one new thing that you had to do tomorrow to further fulfill each attitude, what would it be?

4. Four main issues have been identified as the leading cause of stress and burnout for teachers. On a scale of 1–5, rank each issue according to how you are affected by it.

1. Disruptive/Unmotivated students
   Not a problem 1 --- 2 --- 3 --- 4 --- 5 Source of great stress

2. Lack of appreciation from colleagues, administrators, and parents
   Not a problem 1 --- 2 --- 3 --- 4 --- 5 Source of great stress

3. Inadequate resources
   Not a problem 1 --- 2 --- 3 --- 4 --- 5 Source of great stress

4. Lack of attention to yourself
   Not a problem 1 --- 2 --- 3 --- 4 --- 5 Source of great stress

Your responses to this informal survey can give you a good idea about where to go within the book for strategies and ideas. Obviously, the higher the source of personal stress this issue is for you, the more likely you will be to benefit from the strategies in the section that addresses the issue.



Key Chapter Thoughts

- Live each day as if there is no tomorrow and understand that change for you and others is a roller coaster ride.
- Play and have fun. For example, try smiling even when you don't feel like it. Make a point of saying or doing at least one thing you enjoy each period.
- If you strive to make *their* day fulfilling, there is a really good chance that you will make your own day satisfying.
- Be there. It may require a conscious effort to be more on your game with some of your students, classes, parents, colleagues, and administrators. It is ultimately worth the effort. More importantly, be there for yourself by appreciating what you are doing even on days when no one else seems to care.
- Choose your attitude. The lens we look through determines what we see and affects how we react.



For the Administrator

Ours is a people business. With all the talk about the need for high standards, a challenging curriculum, relevant instruction, 21st

century skills, professional learning communities, and innovation through technology, running an effective school is about establishing a climate where teachers want to teach and students want to learn. It is people who bring about change for better or worse, and your best teachers are already making things happen. This doesn't mean that you shouldn't want or expect your best teachers to get even better. As new approaches develop to help students learn at high levels, even the best teachers will need to embrace change. However, the last thing you want is for the latest mandate, initiative, or vision to be a source of irritation and stress. Since your best teachers already have what it takes, your goal should be figuring out ways to get more teachers to act like them.

When there is a desire or mandate for a new initiative, think about ways your best teachers can get behind this initiative with the same verve and skill they bring to their classrooms. Realize that new initiatives should be presented, initiated, and evaluated while furthering the four key attitudes among your best teachers and hopefully awakening these same attitudes in those less capable: choose your attitude, play, make their day, be present. As the school leader, you should encourage all teachers to behave in ways that reflect these four attitudes in order to establish or reinforce a school climate that provides the energy and creativity essential to the teaching-learning process.

When change is on the horizon, give your best teachers a "heads-up." I have noticed that it is often the best teachers who are most bothered by mandated curricula or schedule changes. Sometimes they simply disagree with what has changed, but more often they are resentful at having had no say. To paraphrase Saphier (2005), virtually never will they disagree with goals that articulate a crystal clear curriculum that includes a compact list of learning intentions and success criteria. They may have issues pertaining to curriculum content, the specifics of the learning goals, or how to best measure mastery. Seek their involvement and their ideas about

how implementation can best happen with the least amount of disruption. If there is disagreement, uncertainty, or confusion, provide clarification. Kotter and Cohen (2002) point out, "In a change effort, culture comes last, not first" (p. 175). Culture changes after people change. The more you can get your best teachers behind a new initiative, the more likely this initiative will become a permanent part of the school's fabric.

EDUCATION

WHEN TEACHING GETS TOUGH

Are you overwhelmed by unruly students, difficult parents, and never-ending classroom distractions? Are you tired of scavenging and pleading for basic school supplies? Do you wonder if anyone notices or cares how much effort you put into teaching every day? If you answered yes to any of these questions, then this book is for you.

When Teaching Gets Tough offers practical strategies you can use to make things better right away. Veteran educator Allen Mendler organizes the discussion around four core challenges:

- Managing difficult students
- Working with unappreciative and irritating adults
- Making the best of an imperfect environment
- Finding time to take top-notch care of yourself

When Teaching Gets Tough is there when you need help to reclaim and sustain your energy and enthusiasm for teaching. Written with a deep understanding of the issues that teachers face every day, the book also includes sections for administrators who want to help teachers stay at the top of their game.

Allen Mendler is an educator and school psychologist and the author of *Connecting with Students* and co-author of *Discipline with Dignity, 3rd edition*.

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Where GREAT TEACHING BEGINS

Planning for Student Thinking and Learning

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Planning for Student Thinking and Learning

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Introduction

Have you ever watched a child play school? Maybe you remember playing school yourself—lining up your younger siblings or teddy bears on the floor while you stood in front of them, taking charge. You, or the child you've watched, probably demonstrated most of the visible aspects of what teaching involves: directing, praising, reprimanding, asking questions, explaining things, and generally engaging in the routines of classroom life. Teaching is understood to be a performance with a script—a script that leaves some room for improvisation but repeatedly pulls the actors back to traditional routines. What is both fascinating and alarming about this script is that a teacher can perform it quite proficiently without generating much learning in students' minds.

In a wonderful essay reflecting on a long career spent investigating student learning, Graham Nuthall (2005) noted that, whatever the formal curriculum might be, students learn about classrooms and about what teachers do from their own experience of being students. Those students who grow up to become teachers themselves tend to put this learning into practice. Nuthall described "ritualized routines" (p. 895) of classroom teaching that

are carried on generation after generation and based primarily on principles of classroom management. Many of the teachers he observed had learned to be pleased with their lessons when they could see students demonstrating engagement and cooperating with the requirements of the assigned activities. Significantly, Nuthall noted that the primary focus for both students and teachers was task completion. Both groups measured the success of a lesson more by how well students had carried out classroom activities than by what students had learned from the activities.

In my own experience as a student, a teacher, and a teacher-educator, I have seen for myself exactly what Nuthall described. I grew up seeing teaching as a matter of keeping order, delivering information, assigning tasks and projects, and giving tests. Like so many of my peers, I internalized these behaviors—this performance—as being "What Teaching Is."

This ritualized-routine approach to teaching is no longer tenable in this age of instructional accountability, in which attention to individual students' learning has become a priority. We need to understand that for any given assignment, some of our students may be going through the motions—not engaging in the cognitive activity necessary to expand their knowledge base—while others may be reviewing information they already know. We need to confront the fact that too many students are thinking of their classwork not as a route to learning but as tasks to be gotten out of the way, and too many teachers are out of touch with the cognitive development that we hope and assume is occurring in our students' minds. If what we think of as good teaching, even teaching that embodies "best practices," does not necessarily result in our students learning, what are teachers and teacher-educators to do?

In his essay, Nuthall focused on the "cultural myths" that schoolchildren absorb and that teachers perpetuate about teaching practices, and perhaps it was because his attention was so focused on the events that could be observed and measured in classrooms that he did not directly address planning and designing instruction. Yet if we are to challenge these myths

and the practices that ensue from them, we must begin at the beginning of teaching, which is in the design of the whole instructional experience. And designing effective instruction requires educators to shift our attention from *teacher performance*—what the teacher does—to *student learning*—the intellectual work that students engage in and the outcome of that work.

In the more than 20 years I have been an educator, including the 12 that I have spent as an educator of teachers, I have seen that the most challenging feature of instructional design is creating objectives that focus on appropriate student learning instead of on classroom activities. I remember vividly how, as a beginner, I, too, lacked clarity about the purpose and practice of instructional design. My own early lesson planning efforts were superficial and tentative—not to mention of unpredictable effectiveness. I felt as though I were groping in a misty half-light, hoping that my next step would be the right one but not knowing how to tell whether it was or not. The only guidance available came from my students, who either learned what I intended for them to learn or did not—and, often, the nature and depth of their learning was only partly visible to me. Furthermore, I couldn't tell whether anything that I had done was responsible for my students' learning or if they had acquired skills and understanding from some other source.

Today, I see my own teacher-education students and many active teachers making those same uncertain gestures, guessing about the "right" way to frame objectives, assessments, and learning activities. Although education students take courses in instructional design and inservice teachers attend workshops and conferences that address selected details of instructional design, without a firm grasp of the purpose of instructional design, the details of how to plan lessons often presented in these classes, workshops, and conferences will simply be piled on top of a faulty conceptual foundation, and the desired outcomes of instruction will not be reliably achieved.

My own preservice education students have shown me, through their trials, mistakes, questions, and confusions, that they need to begin with the foundations of instructional design. So that is where this book begins.

I have also learned through experience that simply telling students things like "Objectives describe learning outcomes" or "Planning is necessary for coherent instruction" will produce nods of agreement but not necessarily the changes that will lead to more effective instructional design practices. Although my students' agreement may be real, basic shifts in perspective are difficult to bring about and require both time and practice. That is why the process of thinking about teaching and learning, for most people, must be taken in small steps, with many examples to illustrate the principles involved.

This book is not intended to provide an exhaustive account of everything that is important about designing instruction. Fortunately, many valuable sources of information are available about effective instructional and assessment methods to use in the classroom. The missing piece for today's teachers is a detailed account of how to establish the clear, effective learning objectives that will support subsequent sound decisions about instruction and assessment. For this reason, most of the emphasis in this book is on establishing objectives and all the thinking and conceptual understanding that underlies that work. Every teacher must know how to think about and carry out the detailed, step-by-step process of identifying outcomes for the whole teaching-and-learning enterprise.

Instructional design may seem deceptively easy to beginners. How hard can it be to figure out how to teach class tomorrow? Of course, once novice instructional designers grasp what the work really entails, the process can appear newly labyrinthine and mysterious—full of false starts and opportunities for error. It's natural to keep reverting to the teacher's classroom performance instead of attending to student learning outcomes because—and my students have made this clear over and over again—our experience has taught us what teachers do in a classroom, but it has given us very little information about what students should learn and how they should learn it. As students, we knew which of our peers answered questions correctly, but we did not otherwise pay much attention to what anyone was (or was

not) learning. As students, many of us did not even pay much attention to our own learning, because the routines of school encouraged us to focus on getting assignments done in a way that pleased the teacher. For that we were rewarded, whether we learned anything meaningful or not.

Beginning instructional designers legitimately do not know what their instructional objectives are, much less how to state them clearly and "correctly." When they are far enough along in the process of shifting their focus to student learning to grasp how much they really don't know, they are like youngsters learning to ride a bicycle. Wobbling across the empty parking lot with a death-grip on the handlebars, they are aware that however fiercely they hang on, the whole project could still crash. These fledging planners wonder how it's possible to do what their expert colleagues do—create lesson after lesson, day after day, knowing what to say and do so that students learn what they should learn. But once the skill of effective instructional design is developed and practiced sufficiently, once balance is attained and forward momentum is brought under control, the work begins to come naturally and seem essential. The question shifts from "How can I possibly do this well?" to "What was so hard about that?" The purpose of this book is to help every reader "hop aboard" the practice of effective instructional design and move forward with increasing confidence and success.

1

Instructional Design: Who and What Is It For?

Visualize a teacher at work. What do you see?

Most of us imagine a person standing in front of a group of students, talking to them, giving them information, demonstrating something, asking questions, or monitoring group work or seatwork. Those of us who are teachers might also picture ourselves at our desk or at our own kitchen table, grading a stack of papers.

It is natural to think about teaching in terms of performance in front of the class. As children, we absorbed an understanding of what teachers do from what we experienced as students in the classroom. We were aware of teachers' delivery of information, their interactions with us and our fellow students, and the activities or assignments they required us to do. We were certainly aware of teachers' role as evaluators. What we were generally not aware of, though, was the work our teachers did to plan *what we would learn* and *how we would learn it.*

Here's an alternative picture of a teacher at work: a woman is sitting at a table with a few colleagues, pen in hand, laptop open, surrounded by textbooks, journals, magazines, and three-ring binders filled with teaching

materials, including copies of state academic standards and the district's curriculum. This teacher and her colleagues are talking about a unit on the local community that they are in the process of planning. Together, they are exploring ways to bring social studies, English, science, math, and art into this unit—working to design instruction that will lead their 7th graders to achieve the grade-level curriculum learning goals. They are thinking less about their own performances than about what will be going on inside their students' minds. They are asking, "How can we translate the requirements of the state's academic standards into specific examples that will make sense to our students? What are the students ready to learn? What will engage them? What will they remember in the weeks, months, and years following this unit? How can we design this unit to be an effective, useful, and meaningful learning experience for them? How can we describe this plan in clear, precise, concise statements that will keep teachers and students on track throughout the unit?"

This is the "deep work" of teaching: designing instruction that takes teachers deep into content and deep into consideration of their students' learning. And although this example shows teachers planning collaboratively, it may be done just as effectively by individual teachers. What makes this approach to instructional design successful is that it goes far beyond selecting activities and writing tests; it extends past the teacher's performance to address the bedrock of the whole educational enterprise—demonstrated student learning.

The term "deep design" is intended to distinguish student- and learning-centered lesson planning from the classroom-centered, activity-oriented planning that is common among beginning teachers. Deep design work is not directly visible to students or to anyone else who is not part of it. Preservice and novice teachers may be only somewhat aware of its existence and its importance. It is based not on questions of "What will I do Monday morning?" or "What activity will my students enjoy?" but on questions of

what and how students will learn, and how teachers and other education stakeholders will know that students have learned.

Figure 1.1 contrasts the extremes of these two approaches to instructional design.

Figure 1.1 • Contrasting Views of Instructional Design

Teacher- and Classroom-Centered Instructional Design	Student- and Learning-Centered Instructional Design
Focus on activities	Focus on what kinds of thinking students do
Focus on teacher performance	Focus on intellectual skills students develop
Focus on classroom events and experiences	Focus on what students take away from the classroom events and experiences
Burning question: "What will we be doing today?"	Burning question: "What will students be learning today?"
Planning addresses only the teacher's time with students	Planning addresses long-term outcomes

The visible parts of a teacher's job—the instructing, assigning, organizing, and assessing—are not easy to do, but their functions and importance are obvious. But because the teacher's planning for every student's learning is not so visible, it's harder to explain who and what such planning is for. New teachers, or teachers who have not been trained to design instruction in the deepest sense, may reasonably assume that planning is for teachers; it tells the teacher what to do. Or they may see planning as something done for administrators, who want to ensure that every teacher has a plan in place to address state academic standards. The idea of planning being for students' benefit might be last on the list—or missing from it altogether.

This book provides a step-by-step look at the process of designing instruction that is centered on student learning. As we begin, let us consider some immediate questions you may have.

"Is Deep Design Really Necessary?"

A teacher whose official success is measured in terms of students' strong test scores and the satisfaction of students, parents, and administrators may feel that there is no need to engage in deep design if current planning practices get good results. It is true that results are the measure of success. However, at any time, individual students may experience difficulties that will require the teacher to focus more intently on their learning. Deep design will equip a teacher to tackle this challenge.

Even when all is going well, you can deepen your understanding of your own practice by asking questions like

- What assumptions about student learning underlie my choice of activities?
- Can I explain the learning goals I have for students?
- Do I explain to students the kinds of thinking and intellectual skills that my activities require?
- Am I confident that I am maximizing the development of long-term skills and knowledge in each and every student?

These questions direct attention to the true goals of education, which begin in the classroom but ultimately lie beyond it. The benefit of shifting the planning focus to deep design is that looking at the bigger picture of what you and your students are doing—and why you are doing it—prepares you to explain to students, colleagues, and other stakeholders how your instruction will lead to lasting student learning.

If you currently use an activity-centered planning approach and feel satisfied that it is working well for your students, you may find it interesting to apply the tests of good design described later in this book to your plans. It's

possible that student learning outcomes are driving your instruction after all. If so, it is likely that you are naturally aligning the elements of teaching—planning, instructing, and assessing—with state academic standards and your students' readiness to learn. Many good teachers operate effectively on their instincts and common sense. But the only way to get the most out of your instructional design is to examine it in detail. And you cannot share your good design practices with colleagues, parents, and students unless you have identified and articulated those practices.

There is one more thoroughly practical benefit of focusing on student learning rather than on activities: more effective time management. When an activity takes less time than anticipated, an activity-focused teacher must either search for ways to fill the remaining class period or give students free time. A learning-focused teacher will be glad to have a few extra minutes to develop students' knowledge further. That teacher might ask the students to explain what they have learned or to describe its connection to other topics in or aspects of the curriculum—and will almost always be rewarded with responses that show students to be up to the new challenges.

"Doesn't Deep Design Require More Work and Take More Time?"

Without question, deep design will be more work for teachers who are accustomed to begining and ending lesson planning by deciding what they and their students will do in class. But activity planning alone is superficial, unfinished planning. Determining what and how students will learn and how they will demonstrate their learning are not extra steps to be added but necessary steps that cannot be skipped.

The good news is that when your instructional design begins with a focus on students and then moves to classroom activities and your own performance, it does not need to take more time or effort. In fact, once you're sure of the desired learning outcomes, you'll often be able to map

out the route to achieving them through activities more quickly. In short, when you shift your thinking to student learning, you are engaging in *smarter* planning, not more difficult planning.

"Doesn't the Teacher's Focus Belong on What Happens in the Classroom?"

Since so much of a teacher's professional life "happens" in a classroom with students, it can be disconcerting to focus on aspects of the job that do not involve actual classroom activity. Of course you must put a great deal of attention and energy into what you do with your students, but this is not an either/or situation. Deep design does not remove classroom-activity planning from the design process; it simply shifts activity planning to a later point in the process.

A teacher may also resist the idea of planning with students' long-term knowledge in mind because the shift in focus it requires can feel overwhelming. Classroom events are more or less under the teacher's control, but the responsibility for student learning that endures beyond the classroom is a heavier load to bear. Nonetheless, preparing students for their futures should be at the heart of every teacher's classroom work. With the right approach, we can *all* do this—and do it well.

"But This Kind of Planning Does Not Describe What the Teacher Should *Do!*"

It's true that student-centered instructional design does not necessarily tell teachers everything they need to do in a class. However, focusing on the students, their intellectual work, and the desired end point of their learning will make it easier to see what *should* happen in class. Knowing where the instruction is headed in the long term is essential to understanding what to do in the short term.

Even more to the point, a lesson plan or unit plan is not a schedule of events or an agenda for a teacher to follow. Its purpose is not to document what must be done, minute by minute, class period by class period, but to document what students must achieve. In other words, the goal of effective instructional design is to record the designer's conceptual plan for student learning and, as such, it answers certain key questions:

- What will students learn?
- To what degree will they learn? To what depth and breadth?
- How will they acquire this learning?
- How will they demonstrate this learning?

This approach to instructional design does *not* necessarily answer the more specific kinds of questions properly addressed in teacher's schedule or agenda, such as

- When will I collect homework?
- How will I prepare students for tomorrow's assembly?
- What will I do about students who missed the last test?
- How will I form student groups for this lesson?

Such step-by-step instructions for what to do and when to do it must be prepared and maintained, but the schedule for these steps becomes clear only after the design for learning has been created.

"So Who Are Lesson Plans Really For?"

Lesson plans are for you, the teacher. They map out what learning activities you will conduct in the classroom, what materials you will need, and what assessments you will give. Lesson plans are also for your administrators. They inform administrators of how you will go about addressing academic standards and preparing students for standardized tests. Ultimately, though, lesson plans are for students. When well-designed, lesson plans tell teachers and administrators how to generate, support, and assess

students' learning. Any lesson plan that does not focus on student learning is incomplete.

In chapters to come, we will examine the elements of good design and work through the steps of creating effective, learning-focused instruction.

WHAT COMES TO MIND WHEN YOU THINK ABOUT

lesson planning?

If you're like most teachers, you focus on the material you need to present, what you will do and say, what you will ask students to do, and the assessments you will create and administer. And if you're like most teachers, you also know what it's like to be disappointed when this careful planning doesn't always lead to the deep understanding and mastery you'd intended.

> There's a better way to approach instructional design says author and teacher-educator Anne R. Reeves, and it's within every teacher's grasp. It begins with a simple mental shift from "planning for activities" to "planning for learning outcomes"—and a critical concentration on learning objectives.

Remarkable for its clarity and filled with vivid examples, *Where Great Teaching Begins* is a step-by-step walk through the crucial, behind-the-scenes intellectual work necessary to make instruction truly effective and help students learn deeply and meaningfully. Here, you'll discover how to

- Translate even the most inscrutable standards into strong, learning-focused objectives.
- Use effective objectives as the basis for excellent assessment.
- Craft engaging learning activities that incorporate both targeted content and necessary thinking skills.
- Pull objectives, assessments, and learning activities together into powerful plans for learning.

Whether you're a novice instructional designer or a veteran seeking a new, streamlined process, this book is a must-read take on how to plan and achieve the excellent learning all teachers aim for and all students deserve.

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