

# **Culturally Responsive Teaching and The Brain**

*This book is dedicated to my children,  
Morgan and Zindzi.  
You have been my greatest teachers.*

# Culturally Responsive Teaching and The Brain

*Promoting Authentic Engagement and Rigor  
Among Culturally and  
Linguistically Diverse Students*

**Zaretta Hammond**

**Foreword by Yvette Jackson**

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# Foreword

**N**euroscience research has substantiated a reality that we should relish: We are all wired for expansive learning, high intellectual performances, and self-determination!

Although this has been verified, there is a syllogism for educators that should be proven to be true and yet has still not become the performance standard: If all brains are wired for expansive learning, high intellectual performances, and self-determination, then students of color should be experiencing this state of being. Since neuroscience has proven the validity of the premise of this syllogism, this is the time for a seminal question to be reckoned with: Why are so many students of color underachieving?

We can't overstate the fact that this reality is a complex conundrum, requiring the need to consider and address a myriad of underregarded factors, the most prevalent being lack of belief in the innate intellectual potential of these students. The most poignant consideration to address in order to answer this seminal question takes us back to the finding from neuroscience: If all students are wired for expansive learning and self-determination, what is needed to activate that wiring for optimal connectivity for students of color? The answer: mediating learning through cultural responsive teaching.

When the brain encounters information, especially during the act of reading and learning, it's searching for and making connections to what is personally relevant and meaningful. What is relevant and meaningful to an individual is based on his or her cultural frame of reference. Finding cultural relevance and personal connections give us perspective, engages our attention, and assists us in interpreting and inferring meaning, enabling the depth of understanding and interest needed for what are considered acts of high intellectual processing such as conceptualizing, reasoning, or theorizing (Jackson, 2011).

Unfortunately, teachers are too often unaware of the fact that the connections they choose to assist students in understanding concepts being taught are in fact "cultural," reflective of the lived, familiar experiences of students who are not students of color, leaving students of color in a state

of disconnect, and often a deep sense of frustration. As much as they search to find the relevance that would enable them to be engaged and make meaning, they are unable, so their innate ability for high levels of cognitive processing is inhibited.

Cultural relevance is the key to enabling the cognitive processing necessary for learning and imperative for engaging and unleashing intellectual potential for students of color. Neuroscience has informed us that it is the catalyst that activates the wiring for neural connectivity to be optimized for learning. But why? And how can we use this information to assist the tens of thousands of teachers around the country who search tirelessly for what's needed to design their teaching to be culturally responsive to students of color so they can perform at the high levels they believe these students are capable of attaining?

Cultural responsiveness is not a practice; it's what informs our practice so we can make better teaching choices for eliciting, engaging, motivating, supporting, and expanding the intellectual capacity of ALL our students. *Culturally Responsive Teaching and The Brain: Promoting Authentic Engagement and Rigor* elucidates for us the neuroscience behind why culture is the fundamental imperative for learning. Zaretta Hammond translates this science into a framework that enables teachers to both create the relationships *and* apply strategies that foster culturally responsive teaching to optimize learning, enabling us to make real the implication of the syllogism that students of color can demonstrate the expansive learning, high intellectual performances, and self-determination for which their brains are wired to achieve.

*Dr. Yvette Jackson*

# Acknowledgments

I remember the day in 2000 a principal suggested I write this book as she left my conference breakout session. I had just presented findings from my 3-year pilot program on educational equity as part of the Bay Area School Reform Collaborative (BASRC) annual conference. I thought it was ironic for her to say that given so very few people had attended this session where I talked about equity, instruction, and brain science. But the idea was planted. Over the years, I found other teachers, leaders, and researchers interested in the topic. Every conversation and article shared has contributed to this book. I thank each one of you for being part of my personal learning community. I also want to thank those teachers who invited me into their classrooms to explore these ideas in real time and shared their practice with me.

I also want to appreciate my National Equity Project family. My two tours of duty allowed space to practice and refine many of these ideas. To LaShawn Route-Chatmon, I appreciate your continuous encouragement. Victor Cary, I am so glad you liked talking about neuroscience just as much as I did. And a special thank you to coaches, Mark Salinas and Colm Davis, who were so kind to read the first draft and offer insightful feedback. It's a better book because of you.

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# About the Author



**Zaretta Hammond** is a former classroom English teacher who has been doing instructional design, school coaching, and professional development around the issues of equity, literacy, and culturally responsive teaching for the past 18 years. She teaches as a lecturer at St. Mary's College's Kalmanovitz School of Education in Moraga, California.

In addition to consulting and professional development, she has been on staff at national education reform organizations, including the National Equity Project and the former Bay Area School Reform Collaborative (BASRC). She has trained instructional coaches in reading development, especially targeted at students of color and English learners. She has also designed national seminars such as the 3-day *Teaching with a Cultural Eye* series for teachers and school leaders. She is regularly invited to present at regional and national conferences. She has authored articles that have appeared in publications such as *Phi Delta Kappan*.

Along with a focus on culturally responsive teaching, Ms. Hammond has a strong research agenda around literacy, vocabulary development, and equity. She has designed culturally responsive tutor training programs aimed at volunteer reading tutors for a variety of nonprofit organizations. She is currently designing a literacy program to accelerate low reading skills among high school students. She holds a Master's in Secondary English Education.

She also writes the popular [ready4rigor.com](http://ready4rigor.com) blog. Zaretta is the proud parent of two young adult children, both of whom she taught to read before they went to school. She resides in Berkeley, California, with her husband and family. Contact Zaretta Hammond at [zhammond@ready4rigor.com](mailto:zhammond@ready4rigor.com)



# Introduction

**B**elieve it or not, the seeds of this book were planted in me way back in Miss Alexander's first grade class at Lafayette Elementary School in San Francisco. The school was located in the Richmond district in the city, a community made up mostly of middle class White families, first- and second-generation Japanese and Russian immigrant families. I was one of about a dozen African American children in a student population of just over 200 students, including my brother and sister. My family alone made up a third of the Black students in the school. I always felt I didn't belong there, figuratively and literally.

In reality, I lived on the other side of town in public housing known as "the pink projects" in the predominantly Black Hunter's Point community. My mother, a single teen parent who had three children by the time she was 22 years old, knew that the only way out of the projects for us was through education. When it was time for us to go to school, she visited the neighborhood school in Hunter's Point and found run-down facilities and low expectations for the children. So, she took matters into her own hands. She used her parents' address to enroll us in Lafayette Elementary across town. My grandparents, both hardworking but illiterate, had come to California at the tail end of the Great Black Migration in 1940. The Great Migration was the movement of two million African Americans out of the rural South to urban states in the Northeast, Midwest, and West between 1919 and 1940 to escape the oppression of Jim Crow in the South and take advantage of economic opportunities up North. My grandfather worked as a longshoreman at the Port of Oakland and my grandmother worked as a maid cleaning houses for upper class White families in Pacific Heights and Nob Hill in San Francisco. They bought their home in the Richmond neighborhood 1 year before I was born. They were the first and only Black family on the block for over 20 years.

Every day, we took the hour-long ride on public transportation to school by ourselves. Mom had to go to work. Our daily trip included getting up early to take one bus out of Hunter's Point and transferring to another in order to get to school on time, with my brother, a third grader,

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in charge of me and my sister, a kindergartener. The principal and teachers turned a blind eye to the fact that we lived outside the attendance zone for Lafayette as long as we “behaved” ourselves. (I would test that implicit agreement many times before graduating in the sixth grade.)

Back home on the playground in the projects, it slowly became clear to me that my brother, sister, and I were getting a different kind of education at Lafayette than the kids in the projects who went to the local school. I have vivid memories of cuddling up one-on-one with Miss Alexander in the reading corner as I read to her. By second grade, I had learned to read well and fell in love with books while the neighborhood kids were struggling with reading. In the fourth grade with Miss Martini, we were doing project-based learning before it was even called project-based learning. On the other hand, back in the neighborhood, my playmates were doing fill-in-the-blank worksheets. At Lafayette, we had Model United Nations in fifth and sixth grade where we learned history, geography, economics, and social studies in integrated ways.

When I was in the fifth grade, Lafayette Elementary School was integrated. It was one of the first 12 schools in San Francisco to integrate under a court-ordered desegregation decree. By this time, my family and I had moved from the projects in Hunter’s Point to public housing in the Fillmore/Western Addition neighborhood in San Francisco. All of a sudden at Lafayette, there were other students of color from my neighborhood. But I noticed a big difference in the classroom. They struggled with analytical tasks and many were in remedial reading groups. The difference I came to realize was I had been taught to use my mind well, process information effectively, and do analytical reading. From the first grade, students at Lafayette Elementary were being prepared to take on increasingly more rigorous content as we moved toward sixth grade. We were taught to be independent, self-directed learners. That was not the case for the new kids that showed up. I was witnessing the achievement gap firsthand. Despite coming to a school that had high quality teachers and instruction, the gaps in their knowledge and skill by fifth grade were too great for them to be independent learners without intense focus and support.

After many decades of attention, the achievement gaps I witnessed as an elementary school student are still with us. The things I witnessed and experienced as a student of color then aren’t significantly different from what many students of color experience in schools today. Despite 30 plus years of education reform, the words of education researcher, Charles Payne, are truer than ever: There’s been “so much reform and so little change” (2008).

Many educators have been looking to culturally responsive teaching as a way to close our achievement gaps given the intense focus on rigor in

the classroom with the arrival of the Common Core State Standards. But for some, culturally responsive teaching (CRT) is simply an engagement strategy designed to motivate racially and culturally diverse students. It seems simplistic to think that students who feel marginalized, academically abandoned, or invisible in the classroom would reengage simply because we mention tribal kings of Africa or Aztec empires of Mexico in the curriculum or use “call and response” chants to get students pumped up. For some, it is seen as a “bag of tricks” with magical properties that don’t allow us to really know how it works. Because it seems so mysterious, many teachers don’t bring the same rigor, consistency, and serious implementation to it as they do with other instructional practices.

More than a motivational tool, culturally responsive teaching is a serious and powerful tool for accelerating student learning. The more we learn from neuroscience, the clearer it becomes as to why and how it works. That’s what this book is about: the connection between brain-based learning and rigorous culturally responsive teaching. Based on my 18 years as an educator and student of neuroscience, I believe culturally responsive teaching has the power to close achievement gaps. When practiced correctly and consistently, it can get underperforming students of color who are caught on the wrong side of the achievement gap ready for rigorous learning by building their brainpower. Dr. Edmund Gordon and his colleagues with the National Study Group for the Affirmative Development of Academic Ability housed at Teachers College at Columbia University, in their 2004 task force report, “All Students Reaching the Top,” highlighted what a growing body of research around closing the achievement gap has found: Building brain power is the missing link to closing the achievement gap for underperforming culturally and linguistically diverse students.

## **THE MARRIAGE OF NEUROSCIENCE AND CULTURALLY RESPONSIVE TEACHING**

Every year, neuroscientists learn more and more about how the brain learns. For instance, we are learning about the importance of the brain’s executive functions in directing learning, problem solving, and self-regulation. Honestly, I wish I had this information when I was in my teacher education program. Any references to the brain and learning were limited to my one semester of Ed Psych. Instead, we spent most of our time learning about the learning theories of Piaget, Skinner, and Thorndike but not their application to everyday teaching. We talked about stages of development but never actually talked in detail about the brain as a natural learning apparatus. During my time as a

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preservice teacher, we spent even less time talking about culturally responsive teaching, although we touched on educational equity and the achievement gap briefly.

Brain-based learning strategies from neuroscience and culturally responsive teaching have always been presented as two separate, unrelated branches of educational practice. Yet teacher educators Geneva Gay and Gloria Ladson-Billings each describe culturally responsive pedagogy as encompassing the social-emotional, relational, and cognitive aspects of teaching culturally and linguistically diverse students. Cognition and higher order thinking have always been at the center of culturally responsive teaching, which makes it a natural partner for neuroscience in the classroom. This book sets out to explicitly highlight the natural intersection between so-called “brain-based learning” and culturally responsive teaching. I believe one of the biggest benefits of looking at these two approaches together is that we can better recognize what impact certain culturally responsive practices have on student learning. Neuroscience also offers a way to understand and organize our culturally responsive teaching practice.

### **MAKING CULTURALLY RESPONSIVE TEACHING ACCESSIBLE**

The question I hear from many teachers is: *How can we make culturally responsive teaching more accessible as a practice?* The first step in learning to use culturally responsive practices is understanding what those practices are and how they fit into our understanding of cognitive science.

Because there's so much confusion over what culturally responsive teaching is and how it works, I started assembling strategies from culturally responsive pedagogy, brain-based learning, and equity and braiding them together into a framework that made it easier to understand and apply in the classroom. I began testing parts of it in the programs I designed as a curriculum developer and facilitated as a professional developer. The first opportunity came as the director of The Equity Initiative at the Bay Area School Reform Collaborative (BASRC), an Annenberg-funded school reform initiative, and then as an independent reading tutor trainer with Community Solutions Network. As part of a team of talented coaches who designed an inquiry-based approach to instructional coaching, I was able to bring some of these approaches and frames to the Partnership for Learning program at the National Equity Project and apply them to instructional coaching. As the chief designer of the professional development seminar, *Teaching with a Cultural Eye*, I got another chance to refine the frame and share it with teachers and school leaders.

I offer it here as a way to help educators understand how to operationalize culturally responsive teaching, especially in service of our most vulnerable and underserved students.

## **MY INTENTION OF THIS BOOK**

Language is powerful. When you are able to name a thing, it moves out of the realm of mystery into concreteness. For too long, culturally responsive teaching has been relegated to this realm of magic and mystery, knowledge that only a select few possess. When we are able to recognize and name a student's learning moves and not mistake culturally different ways of learning and making meaning for intellectual deficits, we are better able to match those moves with a powerful teaching response. My intention in this book is to expand teachers' vocabulary for talking about culturally responsive teaching, especially for underperforming culturally and linguistically diverse students. For too long, the conversation has been dominated by the idea of the "culture of poverty" as an organizing social and intellectual frame for teaching marginalized culturally and linguistically diverse students. In these pages, I offer new concepts and frames for thinking about culturally responsive teaching as an extension of brain-based learning. Turning concepts into practices takes focus, feedback, and reflection. My hope is that soon this book in your hands will be highlighted, underlined, and dog-eared as you use it to build your background knowledge and culturally responsive toolkit. May it lead you into many rich conversations with your colleagues about leveraging the natural learning systems of culturally diverse students in our ongoing efforts to close the achievement gap.

## **WHAT THIS BOOK IS AND WHAT IT ISN'T**

This book isn't a how-to guide on developing culturally responsive lesson plans in every subject area. The Ready for Rigor frame is not a prescriptive program outlining how to do culturally responsive teaching. Instead, I want you to think of culturally responsive teaching as a mindset, a way of thinking about and organizing instruction to allow for great flexibility in teaching. The Ready for Rigor frame simply attempts to organize the principles and tools that should be staples in the toolkit of every culturally responsive teacher. It focuses on helping teachers understand the brain-based principles that govern culturally responsive teaching so that we can stimulate underperforming students' cognitive

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development and grow self-directed learners. Too few education researchers, with the exception of Edmund Gordon, Yvette Jackson, Carol Lee, Augusta Mann, A. Wade Boykins, Rosa Hernandez-Sheets, Aida Walqui, Pedro Noguera, and the late Asa Hilliard, have explicitly focused on building underserved students' cognitive resources as a strategy to closing the achievement gap. Boykin and Noguera (2011) said it best, "when such assets are not yet part of a student's repertoire, educators must directly provide for their acquisition and use" (p. 114). The Ready for Rigor frame attempts to provide some insight into how we can help students acquire and use their natural, culturally grounded cognitive resources. In addition, it illuminates the connection between culture, schooling, and the larger dynamics of race, class, and language in society that shape the educational experiences and outcomes of many students of color and English learners.

### **NAMING OUR STUDENTS: A NOTE ABOUT TERMINOLOGY**

Traditionally, in education we talk about the achievement gap in terms of Black and White—African American students and White students. Since the influx of immigrant families over the past few decades, we have started to include Latino students in the group of students negatively impacted by the achievement gap, many of whom are English learners. In this book, I often name African American and Latino students when talking about cultural responsiveness in the classroom. Please note that I use African American and Latino students as proxies for the larger group of diverse students of color in our classrooms, especially those groups that have traditionally been unacknowledged, such as Pacific Islander and First Nation students. It is important that we also include in our definition students of South Asian and Asian descent when talking about the achievement gap. Too often, we identify these two groups as high achievers who don't need culturally responsive teaching. In reality, we have many students from Hmong, Vietnamese, and Cambodian backgrounds who are struggling to be heard and supported in school.

You will see that I use the terms *students of color* and *culturally and linguistically diverse students* interchangeably throughout the book. I want you to keep in mind that English learners are always included when I refer to students of color, even though there are unique issues around language that all educators need to be familiar with and address specifically.

## TEACHER EXAMPLES

I have tried to provide some short anecdotes of teachers' attempts to change their practice to incorporate the approaches outlined in the book in their teaching practice. They are composites of the teachers who have invited me into their classrooms in past years. I have changed their names and identifying characteristics.

## WHO IS THE BOOK FOR?

I write this book for three main audiences:

***Classroom teachers.*** Most teachers across the country have gone through workshops and seminars on culturally responsive pedagogy, equity, or brain-based learning. This book provides teachers with an understanding of how all three are related and interdependent along with practical strategies for turning new conceptual understanding into on-the-ground teaching practices. It is designed to support teachers' continued growth and development as culturally responsive educators. It's written so an individual teacher can use it to build her teaching practice or it can be used as a study guide within a professional learning community.

***Instructional coaches.*** More and more school districts are supporting teacher development with ongoing instructional coaching. This book is also for instructional coaches who are charged with supporting teachers around culturally responsive teaching. Instructional coaches when they come with an equity lens set up "creative tension" between the teacher's vision of a culturally supportive classroom and current reality. When armed with the right tools and information, they act as "instructional sherpas," guiding a teacher on his own professional capacity building journey. Hopefully, this book will provide coaches with some new language for talking about culturally responsive teaching that focuses on cognitive development rather than on simple engagement strategies.

***Instructional leaders.*** Principals and teacher-leaders play a critical role in creating a school culture that allows for the care and nurturing of culturally responsive learning practices and spaces, both for students and teachers. This book hopefully will provide a conceptual frame that informs and supports their instructional leadership.

## OUTLINE OF THE BOOK

Ready for Rigor is an interdisciplinary approach to understanding culturally responsive teaching. It approaches culturally responsive teaching as an adaptive endeavor rather than a technical fix, which means that the quality of relationships between teacher and students are just as important as the technical strategies used to get students to perform at higher levels. The book is divided into three parts. In Part I, we focus on the first area of the Ready for Rigor frame, Awareness. In Chapter 1, we look at the promise of culturally responsive teaching in supporting our most vulnerable students. I explain the relationship between helping students of color who are dependent learners and culturally responsive teaching. We also look at the role neuroscience can play in helping us understand how to implement it more successfully. In this chapter, I introduce the Ready for Rigor framework that helps organize culturally responsive teaching and guides us through the other chapters in the book. Chapter 2 looks at the role culture plays in culturally responsive teaching and offers a unique way to think about it. Chapter 3 reviews the connection between culture, brain structures, and building brainpower. In Chapter 4, we return to looking at personal “inside-out” work culturally responsive teachers must do to prepare themselves to be effective. Part II focuses on Learning Partnerships and covers Chapters 5 through 7. Chapter 5 outlines the foundational role effective student-teacher relationships play in culturally responsive teaching. Chapter 6 explores the special stance and skills teachers need in order to leverage relationships and culture to help dependent learners cultivate the right mindset as they move toward independence. In Chapter 7, we look at the strategies that build academic mindset in culturally congruent ways. Part III focuses on Building Intellectual Capacity and covers Chapters 8 through 9. Chapter 8 focuses on information processing and building students’ intellectual capacity through cognitive routines. Chapter 9 looks at the importance of creating a socially and intellectually safe classroom community that encourages students to take more cognitive risks. Finally, in the Epilogue, we think together about how we lead for equity outside the classroom as culturally responsive educators. Each chapter ends with these common parts:

- **Chapter Summary**—a set of big ideas from the chapter
- **Invitation to Inquiry**—a set of questions for reflection and further investigation
- **Going Deeper**—a set of resources for learning more and building background knowledge

## SUGGESTIONS FOR GETTING THE MOST OUT OF THE BOOK

- **Read with intention and purpose.** Ask yourself a guiding question as you read: *How do I want to grow as a culturally responsive educator? What do I want to know more about or what questions or concerns do I have?*
- **Read the book with a highlighter and a notebook.** As you read, mine the content for the nuggets of information and insight that resonate with you. Pull out those that build on what you already know. Make explicit connections to schoolwide or professional learning community (PLC) initiatives or other approaches for improving outcomes for low performing students. Summarize in your own words so that you help your brain assimilate the new information.
- **Customize tools and strategies.** Think through how you might tailor strategies and tools to fit your grade level, school context, or your own personality and style.
- **Take bite-sized action.** Begin with one or two strategies for building relationships and one or two for building intellectual capacity. If you are just beginning to explore culturally responsive teaching, don't allow yourself to get overwhelmed by believing you have to do it all. If you are a veteran of CRT, focus on one or two areas you'd like to strengthen in your practice.
- **Practice action research.** Based on your guiding question, observe your current practice or student learning behaviors to establish a baseline. Put your bite-sized actions in motion. Collect data regularly. Create space and time to analyze and interpret it against the Ready for Rigor frame. Then reflect and adjust your practices.
- **Invite others to join you on the journey.** Form an inquiry group or book circle as a way to foster collaboration and accountability around your action research.



# **PART I**

## **Building Awareness and Knowledge**

# 1 Climbing Out of the Gap

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## *Supporting Dependent Learners to Become Independent Thinkers*

*Education either functions as an instrument which is used to facilitate integration of the younger generation into the logic of the present system and bring about conformity or it becomes the practice of freedom, the means by which men and women deal critically and creatively with reality and discover how to participate in the transformation of their world.*

—Paulo Freire, *Pedagogy of the Oppressed*

**T**he chronic achievement gap in most American schools has created an epidemic of dependent learners unprepared to do the higher order thinking, creative problem solving, and analytical reading and writing called for in the new Common Core State Standards. One of the goals of education is not simply to fill students with facts and information but to help them learn how to learn. Classroom studies document the fact that underserved English learners, poor students, and students of color routinely receive less instruction in higher order skills development than other students (Allington & McGill-Franzen, 1989; Darling-Hammond, 2001; Oakes, 2005). Their curriculum is less challenging and more repetitive. Their instruction is more focused on skills low on Bloom's taxonomy. This type of instruction denies students the opportunity to engage in what neuroscientists call **productive struggle** that actually grows our

brainpower (Means & Knapp, 1991; Ritchhart, 2002). As a result, a disproportionate number of culturally and linguistically diverse students are dependent learners.

Here is the problem. On his own, a dependent learner is not able to do complex, school-oriented learning tasks such as synthesizing and analyzing informational text without continuous support. Let's not misunderstand the point—dependent doesn't mean deficit. As children enter school, we expect that they are dependent learners. One of our key jobs in the early school years is to help students become independent learners. We expect students to be well on their way to becoming independent learners by third grade, but we still find a good number of students who struggle with rigorous content well into high school, mostly students of color.

The closest we usually come to talking about this situation is the popular “Read by Third Grade” campaigns. We say children are *learning to read* up until third grade then shift to *reading to learn*. The same is true with cognition. In the early grades, we teach children habits of mind and help them build cognitive processes and structures so that as they move through school they are able to do complex thinking and independent learning.

For culturally and linguistically diverse students, their opportunities to develop habits of mind and cognitive capacities are limited or non-existent because of educational inequity. The result is their cognitive growth is stunted, leaving them dependent learners, unable to work to their full potential. In the *New Jim Crow: Mass Incarceration in the Age of Colorblindness*, Michelle Alexander (2012) suggests that this dependency is the first leg of the “school-to-prison pipeline” for many students of color. According to the Southern Poverty Law Center, the school-to-prison pipeline is a set of seemingly unconnected school policies and teacher instructional decisions that over time result in students of color not receiving adequate literacy and content instruction while being disproportionately disciplined for non-specific, subjective offenses such as “defiance.” Students of color, especially African American and Latino boys, end up spending valuable instructional time in the office rather than in the classroom. Consequently, they fall further and further behind in reading achievement just as reading is becoming the primary tool they will need for taking in new content. Student frustration and shame at being labeled “a slow reader” and having low comprehension lead to more off-task behavior, which the teacher responds to by sending the student out of the classroom. Over time, many students of color are pushed out of school because they cannot keep up academically because of poor reading skills and a lack of social-emotional support to deal with their increasing frustration.

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**Figure 1.1** Dependent Learner Characteristics vs. Independent Learner

Many culturally and linguistically diverse students are “dependent learners” who don’t get adequate support to facilitate their cognitive growth. Consequently, they are not able to activate their own neuroplasticity.

<b>The Dependent Learner</b>	<b>The Independent Learner</b>
<ul style="list-style-type: none"><li>• Is dependent on the teacher to carry most of the cognitive load of a task always</li><li>• Is unsure of how to tackle a new task</li><li>• Cannot complete a task without scaffolds</li><li>• Will sit passively and wait if stuck until teacher intervenes</li><li>• Doesn’t retain information well or “doesn’t get it”</li></ul>	<ul style="list-style-type: none"><li>• Relies on the teacher to carry some of the cognitive load temporarily</li><li>• Utilizes strategies and processes for tackling a new task</li><li>• Regularly attempts new tasks without scaffolds</li><li>• Has cognitive strategies for getting unstuck</li><li>• Has learned how to retrieve information from long-term memory</li></ul>

In recent years, there’s been a lot of talk about the reasons behind the low performance of many students of color, English learners, and poor students. Rather than examine school policies and teacher practices, some attribute it to a “culture of poverty” or different community values toward education. The reality is that they struggle not because of their race, language, or poverty. They struggle because we don’t offer them sufficient opportunities in the classroom to develop the cognitive skills and habits of mind that would prepare them to take on more advanced academic tasks (Boykin & Noguera, 2011; Jackson, 2011). That’s the achievement gap in action. The reasons they are not offered more opportunities for rigor are rooted in the education system’s legacy of “separate and unequal” (Kozol, 2006; Oakes, 2005).

School practices that emphasize lecture and rote memorization are part of what Martin Haberman (1991) calls a “pedagogy of poverty” that sets students up to leave high school with outdated skills and shallow knowledge. They are able to regurgitate facts and concepts but have difficulty applying this knowledge in new and practical ways. To be able to direct their own lives and define success for themselves, they must be able to think critically and creatively.

As educators, we have to recognize that we help maintain the achievement gap when we don’t teach advanced cognitive skills to students we label as “disadvantaged” because of their language, gender, race, or socio-economic status. Many children start school with small learning gaps, but as they progress through school, the gap between African American and

Latino and White students grows because we don't teach them how to be independent learners. Based on these labels, we usually do the following (Means & Knapp, 1991):

- Underestimate what disadvantaged students are intellectually capable of doing
- As a result, we postpone more challenging and interesting work until we believe they have mastered "the basics"
- By focusing only on low-level basics, we deprive students of a meaningful or motivating context for learning and practicing higher order thinking processes

Just increasing standards and instructional rigor won't reverse this epidemic. Dependent learners cannot become independent learners by sheer willpower. It is not just a matter of grit or **mindset**. Grit and mindset are necessary but not sufficient by themselves. We have to help dependent students develop new cognitive skills and habits of mind that will actually increase their brainpower. Students with increased brainpower can accelerate their own learning, meaning they know how to learn new content and improve their weak skills on their own.

While the achievement gap has created the epidemic of dependent learners, **culturally responsive teaching** (CRT) is one of our most powerful tools for helping students find their way out of the gap. A systematic approach to culturally responsive teaching is the perfect catalyst to stimulate the brain's neuroplasticity so that it grows new brain cells that help students think in more sophisticated ways.

I define culturally responsive teaching simply as . . .

An educator's ability to recognize students' cultural displays of learning and meaning making and respond positively and constructively with teaching moves that use cultural knowledge as a scaffold to connect what the student knows to new concepts and content in order to promote effective **information processing**. All the while, the educator understands the importance of being in a relationship and having a social-emotional connection to the student in order to create a safe space for learning.

Numerous studies have demonstrated that culturally responsive education can strengthen student connectedness with school and enhance learning (Kalyanpur & Harry, 2012; Tatum, 2009).

There has been a lot written about cultural responsiveness as part of the current reform agenda. As a teacher educator, I see teacher

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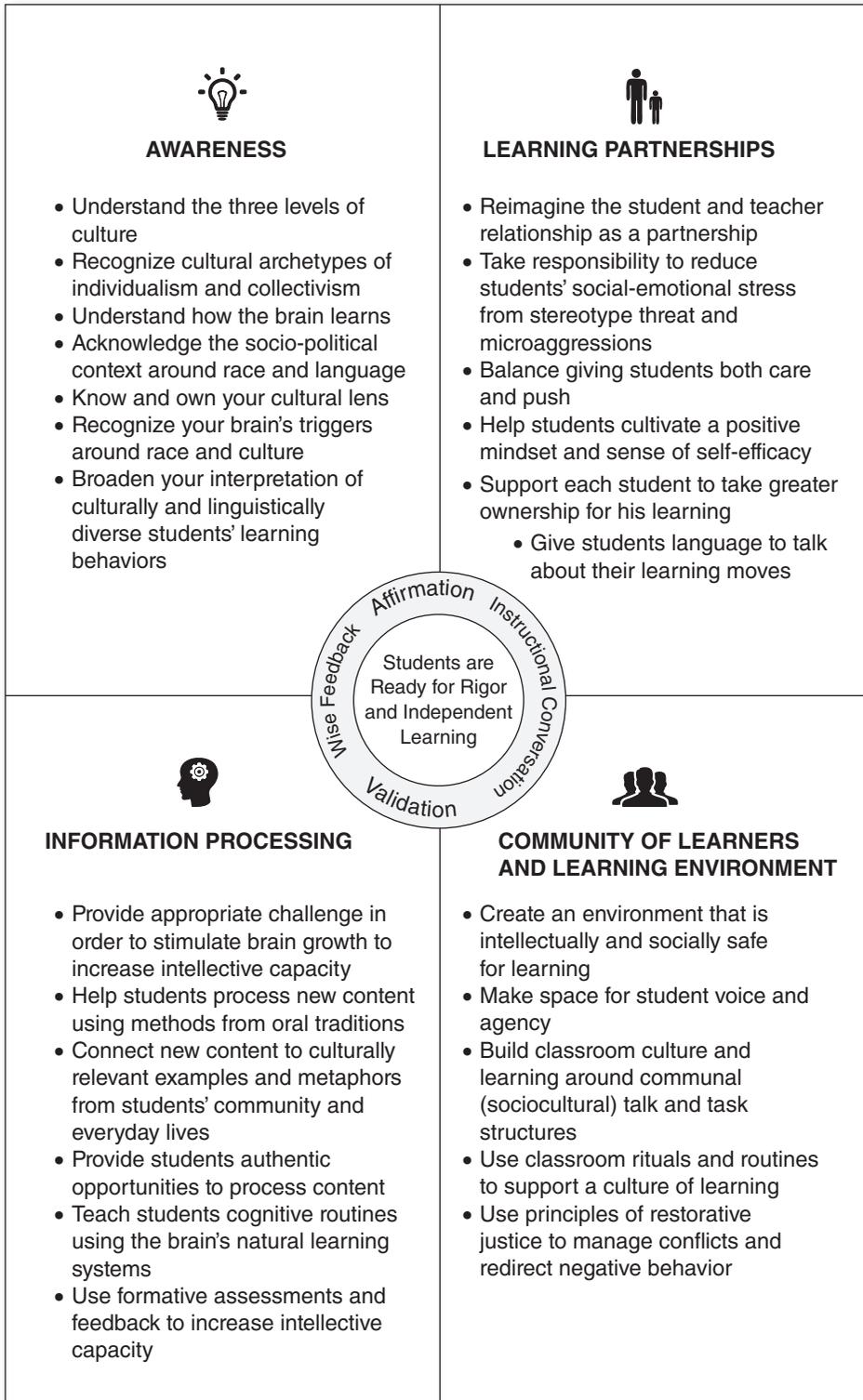
education programs pushing to include cultural responsiveness in their list of competencies for beginning teachers. Many states require teachers to have some type of cross-cultural, language, and academic development (CLAD) certification. Teacher induction programs that support new teachers in their first years in the classroom try to cover the topic in their beginning teacher mentoring programs. Most school districts only offer teachers one-shot professional development “trainings” with little or no continued support. Too often, culturally responsive teaching is promoted as a way to reduce behavior problems or motivate students, while downplaying or ignoring its ability to support rigorous cognitive development.

### THE MARRIAGE OF NEUROPLASTICITY AND CULTURALLY RESPONSIVE TEACHING

I can't tell you the number of times someone has asked me for the culturally responsive “cheat sheet” for working with African American, Latino, or even Middle Eastern students. A good number of teachers who have asked me about cultural responsiveness think of it as a “bag of tricks.” Far from being a bag of tricks, culturally responsive teaching is a pedagogical approach firmly rooted in learning theory and cognitive science. When used effectively, culturally responsive pedagogy has the ability to help students build **intellective capacity**, also called *fluid intelligence* (Ritchhart, 2002) and *intellective competence* (Gordon, 2001; National Study Group for the Affirmative Development of Academic Ability, 2004). Intellective capacity is the increased power the brain creates to process complex information more effectively. Neuroscience tells us that culture plays a critical role in this process. That's why it is so important for culturally responsive teachers to be well-versed in brain science and cultural understanding.

Beyond knowing the brain science, the biggest challenge I see teachers struggling with is how to operationalize culturally responsive pedagogical principles into culturally responsive teaching practices. It means understanding the basic concepts of culturally responsive pedagogy (Hernandez-Sheets, 2009; Nieto, 2009; Villegas & Lucas, 2002) and then learning the instructional moves associated with them. The Ready for Rigor framework is designed to help teachers do just that with the aid of neuroscience to deepen your understanding (Figure 1.2). This simple framework organizes key areas of teacher capacity building that set the stage for helping students move from being dependent learners to self-directed, independent learners.

Figure 1.2 Ready for Rigor Framework



## THE FOUR PRACTICE AREAS OF CULTURALLY RESPONSIVE TEACHING

Learning to put culturally responsive teaching into operation is like learning to rub your head and pat your stomach at the same time. This move feels a bit awkward at first because you have to get your hands to perform two different movements in unison. The trick is to get each movement going independently then synchronizing them into one rhythmic motion. The practices are only effective when done together. In unison they create a synergetic effect. The Ready for Rigor framework lays out four separate practice areas that are interdependent. When the tools and strategies of each area are blended together, they create the social, emotional, and cognitive conditions that allow students to more actively engage and take ownership of their learning process.

The framework is divided into four core areas. The individual components are connected through the principles of brain-based learning:

### Practice Area I: Awareness

Successfully teaching students from culturally and linguistically diverse backgrounds—especially students from historically marginalized groups—involves more than just applying specialized teaching techniques. It means placing instruction within the larger sociopolitical context. In this first practice area, we explore the development of our sociopolitical lens. Every culturally responsive teacher develops a sociopolitical consciousness, an understanding that we live in a racialized society that gives unearned privilege to some while others experience unearned disadvantage because of race, gender, class, or language. They are aware of the role that schools play in both perpetuating and challenging those inequities. They are also aware of the impact of their own cultural lens on interpreting and evaluating students' individual or collective behavior that might lead to low expectations or undervaluing the knowledge and skills they bring to school. Mastering this practice area helps teachers

- Locate and acknowledge their own sociopolitical position
- Sharpen and tune their cultural lens
- Learn to manage their own social-emotional response to student diversity

## **Practice Area II: Learning Partnerships**

The second practice area focuses on building trust with students across differences so that the teacher is able to create a social-emotional partnership for deeper learning. Culturally responsive teachers take advantage of the fact that our brains are wired for connection. As they move through the work in this area, teachers build capacity to

- Establish an authentic connection with students that builds mutual trust and respect
- Leverage the trust bond to help students rise to higher expectations
- Give feedback in emotionally intelligent ways so students are able to take it in and act on it
- Hold students to high standards while offering them new intellectual challenges

## **Practice Area III: Information Processing**

The third practice area focuses on knowing how to strengthen and expand students' intellectual capacity so that they can engage in deeper, more complex learning. The culturally responsive teacher is the conduit that helps students process what they are learning. They mediate student learning based on what they know about how the brain learns and students' cultural models. This practice area outlines the process, strategies, tactics, and tools for engaging students in high-leverage social and instructional activities that over time build higher order thinking skills. Moving through this area, teachers learn how to

- Understand how culture impacts the brain's information processing
- Orchestrate learning so it builds student's brain power in culturally congruent ways
- Use brain-based information processing strategies common to oral cultures

## **Practice Area IV: Community Building**

In the fourth practice area, we focus on creating an environment that feels socially and intellectually safe for dependent learners to stretch themselves and take risks. Too often, we think of the physical setup of our classroom as being culturally "neutral" when in reality it is often an extension of the teacher's worldview or the dominant culture. The culturally responsive teacher tries to create an environment that communicates

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care, support, and belonging in ways that students recognize. As they move through this practice area, teachers understand how to

- Integrate universal cultural elements and themes into the classroom
- Use cultural practices and orientations to create a socially and intellectually safe space
- Set up rituals and routines that reinforce self-directed learning and academic identity

### CHAPTER SUMMARY

- The achievement gap has denied underserved students of color and English learners opportunities to develop the cognitive skills and processes that help them become independent learners.
- Culturally responsive teaching is a powerful tool to help dependent learners develop the cognitive skills for higher order thinking.
- Culturally responsive teaching uses the brain principles from neuroscience to mediate learning effectively.
- The Ready for Rigor framework helps us operationalize culturally responsive teaching.

### INVITATION TO INQUIRY

- How is your school addressing the needs of low-performing students of color?
- How do you support struggling students to become independent learners?
- How have you and your colleagues operationalized the principles of culturally responsive teaching?

### GOING DEEPER

To deepen your knowledge, here are some books, reports, and articles I would recommend:

- *All Students Reaching the Top: Strategies for Closing Academic Achievement Gaps* by the National Study Group for the Affirmative Development of Academic Ability.
- *The Flat World and Education: How America's Commitment to Equity Will Determine Our Future* by Linda Darling-Hammond.