

Smarter Teacher Leadership

Neuroscience and the Power of
Purposeful Collaboration

Marcus Conyers
Donna Wilson

Foreword by Mary Helen Immordino-Yang



Contents

Foreword by Mary Helen Immordino-Yang	ix
Acknowledgments	xi
Introduction	1
Connecting Mind, Brain, and Education Research to Teacher Leadership	2
The POWER Framework	3
Teacher Leadership in the United States	6
1. The Spectrum of Teacher Leadership and Collaboration	8
Evolution of Shared Leadership in Educational Settings	9
Defining Teacher Leadership	11
Impact of Teacher Leadership and Purposeful Collaboration	12
Applying the Science of Learning to a Spectrum of Leadership Opportunities	14
Teacher Leadership Tool Kit	23
2. Plasticity for Powerful Learning Across the Life Span	25
What Is Brain Plasticity?	25
Taking Charge of Your Plastic Brain	26
Seven Principles of Adult Learning Applied to Teacher Leadership	30
Constructive Conclusions: The POWER of Plasticity in Teacher Leadership	41
3. Opportunities for Teacher Collaboration: Harnessing the Power of the Social Brain	43
Building Collective Capacity to Enhance Student Learning	44
An End to Struggling in Isolation	46
Why and How Purposeful Collaboration Works	49

Working Together to Improve Collective Professional Knowledge	51
Constructive Conclusions: The POWER of Optimizing Opportunities for Purposeful Collaboration	61
4. Work Smarter: Metacognition and Developing Expertise	63
Metacognition in Support of Developing Adaptive Expertise	64
Leading With Metacognition	66
Six Cognitive Assets for Metacognitive Teaching and Leadership	67
Constructive Conclusions: The POWER of Working Smarter Through Metacognition	79
5. Encouraging a Supportive Culture for Learning and Teaching	81
The Power of Practical Optimism	83
Fostering Academic Optimism to Support Student Achievement	89
Empathy as a Key Leadership Skill	90
Constructive Conclusions: The POWER of Encouragement	92
6. Results of Effective Teacher Leadership	95
Applying Social Physics for Positive Change: Become a Charismatic Connector	96
Lesson Study in Japan: Optimize Group Planning and Research	97
Building Collective Capacity in Ontario, Canada: Take Social Physics to the Systems Level	99
The “Finnish Dream” of Quality Education for All: Advocate for Positive Progress Across Systems	100
Kennewick, Washington: Lead the Way with Teacher-Led Professional Development	101
Purposeful Collaboration in Applying the Science of Learning	102
When Educators Lead the Way	106
References	109
Index	121
About the Authors	130

Introduction

We stand at a unique point in education. Mind, brain, and education science provides powerful insights on how people learn, and a wide body of research offers a clear understanding about factors that increase academic performance. School systems have a tremendous opportunity to align instruction with such research and, in so doing, to guide all students to develop higher-order thinking skills necessary to be college and career ready. The traditional model of teachers working in isolation is unlikely to be effective in these times when such significant shifts in educational systems are under way. What is needed today to extend the “science of learning” from theory to practice is a system where teacher leaders and administrators work together in a process we call *purposeful collaboration*. One conclusion John Hattie (2012) draws from his review of more than 800 meta-analyses is that

Accomplishing the maximum impact on student learning depends on teams of teachers working together, with excellent leaders or coaches, agreeing on worthwhile outcomes, setting high expectations, knowing the students’ starting and desired success in learning, seeking evidence continually about their impact on all students, modifying their teaching in light of this evaluation, and joining in the success of truly making a difference to student outcomes. (p. 35)

Our work over the last 16 years has been about supporting such an approach, with an emphasis on applying implications of mind, brain, and education research on how students learn—and how teachers can advance their professional practice. In *Smarter Teacher Leadership: Neuroscience and the Power of Purposeful Collaboration* we share key research on adult learning and teacher leadership and shine the spotlight on examples of teacher leaders putting research into practice through a spectrum of strategies. We also share inspiring examples, from the United States and from around the world, of education systems that incorporate principles of teacher leadership and purposeful collaboration.

CONNECTING MIND, BRAIN, AND EDUCATION RESEARCH TO TEACHER LEADERSHIP

The transdisciplinary field of mind, brain, and education research encompasses findings from cognitive science, neurobiology, and educational practice. Students benefit when teacher leaders and administrators work together to ensure that research is applied in each classroom and throughout the school, with a clear focus on improving teaching and learning. This purposeful collaboration can help bridge the gap between research and practice in K–12 education (Hille, 2011).

Mind, brain, and education research provides a conceptual framework to empower teacher leaders with a practical means to support increased effectiveness of instruction across schools and districts. We began our mission to develop and share this framework through a 3-year initiative, Scholarships for Teachers in Action Research (STAR) with the Florida Department of Education. This initiative formed the foundation for graduate degree programs connecting mind, brain, and education research to teacher leadership. To date, some 2,500 educators from all grade levels have participated in the program. A series of impact studies (Germuth, 2012) suggests that what educators learned in their graduate studies has strengthened their teacher leadership and has had a positive effect on student learning:

- In creating and taking advantage of opportunities to align curriculum, instruction, and assessment practices with research on how to optimize student learning
- In designing and implementing professional development to share current research on student and adult learning
- In facilitating a positive, collaborative culture in their schools and districts
- In understanding and modeling best pedagogical practices as mentors and coaches
- In working with colleagues and administrators to design and implement assessments and data collection and analysis with the aim of improving learning outcomes
- In improving outreach and positive relationships with students' parents and other family members, community leaders, and other educational stakeholders to share how we can all support students to achieve their full academic potential.

Our previous book *Five Big Ideas for Effective Teaching: Connecting Mind, Brain, and Education Research to Classroom Practice* (2013b) set

out a conceptual framework for increasing teacher effectiveness by bridging research to practice at the level of the classroom. In this text we move to the next level, by sharing insights and strategies for leveraging the potential of teacher leadership through the POWER framework. This begins with an understanding of the tremendous neurocognitive potential of adult learners to develop new knowledge and skills. This potential is of fundamental importance in light of research that enhancing the collective knowledge and skills of educators in turn increases student achievement. Instead of waiting for “born teachers” to enter the profession, new and veteran educators alike need to continue to develop their teaching skills throughout their careers and to adopt strategies demonstrated by emerging research to support student learning. This continual improvement of professional practice requires collaboration and leadership from within the teaching profession.

THE POWER FRAMEWORK

Teaching is an incredibly complex profession, and educators have traditionally been expected to take on a variety of daunting challenges on their own, in isolation from the support and guidance of peers. Some school systems do support professional learning communities and other opportunities for teacher collaboration, but wider adoption is needed. Exemplifying the proverb “Many hands make light work,” the shared expertise of teachers working together and with administrators to share responsibility for improving student performance can help make those challenges less intractable and more manageable. Teacher leaders help create opportunities for purposeful collaboration and “call others to action with the aim of improving teaching and learning” (Danielson, 2007, p. 16).

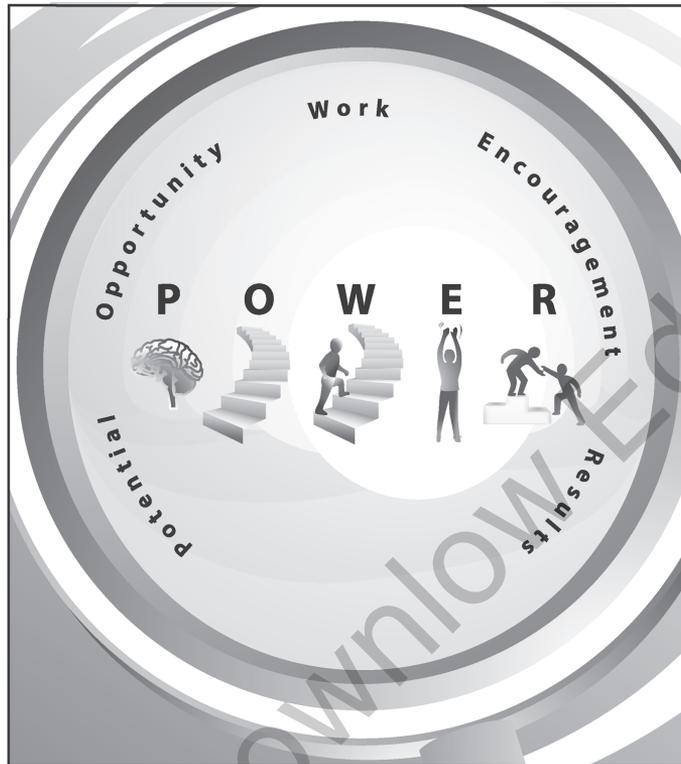
Teacher leaders may emerge from all levels of education and take on a wide variety of roles and responsibilities, all of which aim to contribute to improving students’ learning and academic outcomes. Later chapters will present research showing that the most productive educational leadership begins with teachers. Teacher leadership, in turn, begins with effective teaching, but it does not automatically follow that great teachers are great leaders.

In surveys, teachers report two common obstacles that prevent them from embracing leadership roles: (1) a lack of knowledge that those opportunities exist and/or (2) the perception that teachers skilled in pedagogy lack the skills to teach and lead adults (Katzenmeyer & Moller, 2009). Our aim in this text is to help set aside both of those obstacles. In Chapter 1, we define teacher leadership and the many forms leadership opportunities may take—a veritable spectrum of teacher leadership

to engage educators of varied experiences, interests, and talents. We also explore research on the impact of teacher leadership on student achievement, school climate, work satisfaction, staff retention, and career opportunities. In Chapters 2–6, we make the case that effective leadership strategies and skills can be learned. We construct a bridge to understanding that what makes a successful teacher can also make an effective teacher leader—and maybe even a happier, more fulfilled human being. This bridge from effective teaching to becoming a positive and productive teacher leader is represented by the five components of the POWER model of teacher leadership and purposeful collaboration:

- *Plasticity and potential* (Chapter 2)—how the brain’s ability to continually learn throughout the life span facilitates ongoing improvements in professional practice necessary to make the most of leadership activities. Not only can “old dogs learn new tricks,” they can in some ways learn even better than their younger peers, applying lessons from their professional experience to connect new learning with prior knowledge.
- *Opportunities* (Chapter 3)—how to recognize and take advantage of opportunities for collaborating with colleagues, working with administrators and parents, and influencing and advocating for policy changes. Teachers working together have a much greater impact on improving student achievement than educators working in isolation.
- *Work* (Chapter 4)—how to apply metacognitive strategies to working smarter as a teacher and teacher leader. The uniqueness of each teacher’s personal and professional background equips her with valuable strengths that can help her develop as a leader and contribute to improving instruction in her school and district.
- *Encouragement* (Chapter 5)—how teacher leadership can help foster a positive, optimistic school climate necessary for change and improvement. Together, teachers can cultivate a culture of success in which educators and students alike are encouraged and empowered to establish and fulfill high expectations.
- *Results* (Chapter 6)—how to learn from successful teacher leadership initiatives in other schools and districts and apply new learning in one’s own classroom and school. We shine the spotlight on the good news in education—in the form of success stories from schools across the United States, Canada, and other countries about the gains in student learning that result when teachers embrace leadership roles.

Figure I.1. The POWER of Collaborative Leadership



In short, *Smarter Teacher Leadership* recognizes and promotes the power of teacher leaders to improve student learning, encourages educators to seek out opportunities for collaboration and leadership, and equips them with the knowledge and skills they need to be effective leaders inside and outside their classrooms. We have been privileged through the years to meet many teachers so committed to their profession that they stepped forward to lead and collaborate with their colleagues and work with administrators, parents, and other community members to improve their schools and students' learning outcomes.

In 1999, when we helped develop and deliver training and support for Florida's STAR program, we worked with pairs of teachers from districts throughout the state who came together to learn about classroom applications of mind, brain, and education research. They then returned to their students to put what they had learned to work. They also shared this approach to teaching and learning with their colleagues. Throughout the following year, these teachers met periodically to share and discuss their classroom experiences and their interactions with peers.

This professional development became a launching pad for many of these teachers to pursue leadership endeavors. As just one example, Pamela Davidson, who now works as an exceptional student education (ESE) resource teacher at Treeline Elementary School in Ft. Myers, FL, did a presentation for colleagues at her school and then developed a workshop on the teaching strategies she learned in the STAR program for the Lee County Reading Council. In the years since, Davidson has presented at state and national educational conferences and now mentors new teachers in her school. Davidson also has volunteered to serve alongside other teachers and administrators on committees charged with implementing the Response to Intervention (RTI) program and other initiatives. She says the support she offers colleagues in these leadership roles is as satisfying to her professionally and personally and as important to helping students succeed as her individual teaching. “I have to be at a school where there are opportunities for collaboration and working together as a team,” she says simply. “That’s where I do best.”

TEACHER LEADERSHIP IN THE UNITED STATES

Davidson’s is one among many stories that exemplify the benefits of collaboration and leadership and the skills and knowledge teachers need to make the most of those opportunities for themselves, their colleagues, and their students. A middle school teacher in Massachusetts helped form a teachers’ book club so she and her colleagues could share stories of using their favorite teaching strategies from texts on effective teaching. A Florida teacher organized “Breakfast with the Brain” sessions for peers at her elementary school, offering healthy breakfast snacks along with an overview of the applications of mind, brain, and education research to classroom practice. In Texas, an elementary school teacher implemented teaching and learning strategies based on mind, brain, and education research that helped her students make significant gains in their reading skills; she then shared those strategies and results in a blog that has reached fellow teachers as far away as Australia. These everyday examples of teachers in action may not make headlines, but they capture the essence of an idea that has the potential to transform American education—the power of purposeful collaboration and leadership when educators come together for the clear purpose of improving teaching and learning. Many more such stories appear throughout this book.

We will also align key aspects of the POWER model of teacher

leadership to the Teacher Leader Model Standards (TLMS) developed by the Teacher Leadership Exploratory Consortium (2011). These standards were formulated by teachers, administrators, and teacher educators to further define the ways in which “teacher leadership is a powerful strategy to promote effective, collaborative teaching practices in schools that lead to increased student achievement, improve decision making at the school and district level, and create a dynamic teaching profession for the 21st century” (p. 3).

POWER is an apt acronym for applying fundamental principles from mind, brain, and adult learning research to improve teaching and learning in our schools. Teachers will be able to make the most of opportunities to collaborate with colleagues, partner with administrators, interact with parents, and advocate for the resources needed to optimize student achievement by applying the science of learning. But before we begin exploring each component of that model, let’s begin by exploring the many forms that teacher leadership can take.