“From my early years as a public school teacher, consultant to schools, and as a member of the California State Task Force to Promote Self-Esteem and Personal and Social Responsibility, I know the importance of creating positive and supportive school cultures where students are willing to participate at high levels. *Excellence in Teaching and Learning* provides the research evidence and methodology for creating nurturing schoolwide cultures with effective teachers and competent students—and it belongs in the hands of every educator. I believe the concepts included in this book are critical for both the academic and personal success of our youth.”

—Jack Canfield
Co-author, *Chicken Soup for the Soul* series
and *The Success Principles*

“Bobbi and Barb are a great team to share their experiences, techniques and passion for learning. Educators will benefit from reading this and students of all ages will reap the rewards! Excellence in Teaching and Learning makes a difference.”

—Stedman Graham, CEO, S. Graham & Associates
Author, *Identity: Your Passport to Success*
and *Teens Can Make It Happen: Nine Steps for Success*

“Too many educational programs, strategies and initiatives are based on a ‘one-size-fits-all’ foundation and without question public education is undergoing more changes now than in the last century. This creates a practical dilemma for teachers and administrators who want to stay current and effective with research-supported work. Most likely, you are already aware of the successful impact of Quantum Learning. *Excellence in Teaching and Learning: The Quantum Learning System* provides robust support to naturally blend the proven strategies behind Quantum Learning and the continuous changes in teaching and learning in order to innovate and design future-ready classrooms and schools. As a superintendent in the North Shore of Chicago, I prioritize the amount of time I spend observing teaching and learning in our schools. This book, *Excellence in Teaching and Learning*, contains valuable and specific strategies that will be just as relevant today as they will be in the 22nd century when giving feedback to teachers and administrators.”

—Michael Bregy, Ph.D.
Superintendent of Schools
North Shore School District, Highland Park, IL
“Barb Given and Bobbi DePorter take a deep, holistic approach to the hows and whys of teaching and learning in our classrooms today. The book examines the varying degrees of schoolwide cultures coupled with the integral functions of a child’s brain and how these two systems—culture and cognition—relate to academic achievement. The timing of this book couldn’t be better. Every child in every classroom, school, community and zip code has his or her own unique way of learning and understanding. As public school educators, it’s our job to reach every single one of these children.”

—Daniel A. Domenech
Executive Director, AASA, The School Superintendents Association

“I first became aware of Quantum Learning 20 years ago and have always been impressed with their philosophy. I am in touch with many principals who have adopted QL over the years, and I hear their praise and deep commitment to the Quantum Learning teaching methods. Because of QL’s positive impact in so many schools, I invited them to present to our leadership conference as I know other schools can benefit by adopting their methods. *Excellence in Teaching and Learning* gives a powerful explanation of Quantum Learning and the why behind its methods, as well as scientific evidence that validates its approach to teaching. I am delighted with this book and believe it will have great value for all educators.”

—Gail Connelly
Executive Director, National Association of Elementary School Principals (NAESP)

“*Excellence in Teaching and Learning* provides a very good non-technical perspective of the cognitive neuroscience processes that relate to teaching and learning. It then illustrates how best to mature these processes through imaginative instructional procedures.”

—Robert Sylwester, Ph.D.
Emeritus Professor of Education, University of Oregon
“Given the complex and complicated world our students face today, the classroom and the teacher have become a place of ever-increasing importance. When presented with resources to strengthen academic and social/emotional connections, educators must seize that opportunity. The information contained in this book provides educators with a powerful combination of culture and cognition skills development that is not to be missed. As a superintendent of a large urban school district, I saw the results that the Quantum Learning System brought to the classroom and community. I believe this is a must-read for all educators looking to make a breakthrough in their teaching and learning skills.”

—Larry Perondi
Superintendent, Retired, Oceanside Unified School District, CA

“Barb Given and Bobbi DePorter deliver a clear way of understanding how the brain learns and what we can do to help students learn even better. The Brain’s Natural Learning Systems and the Quantum Learning System work in tandem to create a powerful learning environment. I have seen it happen in my classroom as a teacher, and now as a principal I have seen it happen in my school. These systems help educators regain their joy in teaching while helping all students thrive.”

—Ted Murcray, Ed.D.
Principal, Metropolitan Nashville Public Schools, TN

“Quantum Learning has had a lasting impact on my career as an educator and as a supervisor. QL reenergized my approach to establishing classroom culture, planning and delivering instruction. Excellence in Teaching and Learning explains the critical connections that must be made in the classroom to allow educators, at all levels, to enhance the learning environment.”

—Lauren Marrocco
2013 New Jersey State Teacher of the Year
Instructional Leader, Perth Amboy Public Schools, NJ
Excellence in Teaching and Learning

The Quantum Learning System
Additional books by authors

**Barbara K. Given**

*Teaching to the Brain’s Natural Learning Systems*

*Learning Styles: A Guide for Teachers and Parents*

**Bobbi DePorter**

*Quantum Teaching: Orchestrating Student Success (co-author)*

*Quantum Success: 8 Key Catalysts to Shift Your Energy into Dynamic Focus*

*Quantum Learning: Unleashing the Genius in You*

*Quantum Business: Achieving Success through Quantum Learning*

**The Quantum Upgrade Series**

*The 8 Keys of Excellence: Principles to Live By*

*The Seven Biggest Teen Problems and How to Turn Them into Strengths*
Excellence in Teaching and Learning

The Quantum Learning System

Barbara K. Given
Bobbi DePorter
We dedicate this book to passionate teachers and administrators everywhere who embrace excellence and make a difference for millions of students.

You’re our inspiration!
Acknowledgments

We are deeply grateful to the many educators who have impacted our work and our lives over the years. They have given us valuable feedback, shaped our views, and ultimately contributed greatly to this book.

*Excellence in Teaching and Learning* is the integration of two independently developed systemic approaches to educational practice and we wish to acknowledge those who inspired our conceptualization of each approach in some way.

With respect to the framework and insights into how the brain functions with at least six neurobiological learning systems, we are thankful for the numerous cognitive and behavioral researchers who advance the field of education through their dedicated study of how the brain learns and the educational practices that produce meaningful learning.

A true friend gives you direct and unfiltered feedback. We are beholden to Bob Sylwester for taking his time to thoroughly read our manuscript. His thoughtful critique led to important revisions. We also thank all those who read parts of our draft and support our articulation of their work, including Allen Baddeley, John Biggs, Tait Cole, Richard Davidson, David Didau, Daniel Goleman, John Hattie, and Germund Hesslow.

With respect to the Quantum Learning System, it evolved over many years through collaboration with Mark Reardon, co-author of *Quantum Teaching* and currently QLN’s chief learning officer, and others. Our discussions in recent years led to refinements in the QL System that are reflected in this book and included in our Quantum Learning Excellence in Teaching and Learning programs. We also acknowledge those who facilitate QL programs—Jeff Miller, Shari Murphy, Jenny Severson, Cami Eiskamp, Christian Rauch, Ted Murcray, Ellie Terrell, Ming Shelby, Margaret Malek, Patti Brucki, Chase Mielke, John Carter, Melissa Cupp, Dan St Romain, Sedrick Keyes, Jake Smith, Marina McDonald, Peter Guse, and our site-based facilitators—for their ongoing feedback. Additionally,
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We are indebted to Dee Conradie, our devoted editor, for her tireless focus. Her care and attention to detail are exemplary. She knows our material and goes above and beyond to question and make sure our words are congruent with our values and our teachings. In addition, we thank Kelley Thomas for her graphic design, and Ruth Everett and Spencer Birch for their support.

This book includes numerous references and Susan Berning and Rebecca Ames came to our rescue to help us verify citations. We are truly appreciative of their contribution.

And last but not least, we thank our families—Barb’s son Bryce and daughter Bethany, and Bobbi’s husband/partner Joe Chapon, son Grant and daughter Dana—as well as QLN staff, who endured our intense focus on our path to the completion of this book.
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Foreword

In the mid-1990s two of our best elementary teachers requested a meeting with me to discuss a workshop they attended earlier that school year. As with many workshops teachers attend, they came back enthusiastic and asked that I do some research on the topic of the workshop hoping we could bring the techniques they learned to our school district. The workshop they attended was Quantum Learning for Teachers.

As I began researching the workshop they attended and the company that produced the workshop, I quickly became impressed by how this company had compiled the best research on brain-based theory and learning and applied it in a meaningful way for the classroom. Often, brain-based learning consists of just activities or workshops. Quantum Learning, however, brought it together in a whole-school and classroom format that was systematic and easy to apply.

So, the next year we hired Quantum Learning to begin training all our teachers on how to take their instruction to the next level: how to plan, implement and teach with the learner in mind; and how to make sure that instruction was geared to ensure students and their brains were able to maximize learning. In just a few years, we had our own in-house trainers and the training became essential for everyone that teaches in USD 418.

A few years later, I had the privilege to meet Bobbi DePorter and was instantly struck not only with her intensive knowledge of how the brain works but her compassion and deep commitment to see that all students were successful. She and Quantum Learning became a true partner with our school district in seeing that all students were successful.

In the summer of 2009, I contacted Bobbi to start a discussion with her about a character education program she created entitled the 8 Keys of Excellence. We were using her work in our classrooms and teaching the concepts, but now we started thinking much more broadly on how students become successful and how they go on to become successful post–high school. That initial work
culminated with our school district receiving the first waiver under No Child Left Behind in the nation to work and focus on nine distinct areas of student success. Part of this waiver allowed us to focus deeply on how we could grow the character traits in kids over time and by graduation ensure that students were living “above the line” as outlined in the 8 Keys of Excellence.

The detailed work that we started with Bobbi and her team on how to measure not only character, but how to measure growth in character with students, led Bobbi to introduce me to Dr. Barb Given. Barb, Bobbi, and our team in McPherson spent countless hours designing a meaningful student growth model on character—one that emphasized learning, reflecting and changing behavior over time. It was an exciting project and Barb’s expertise on how students learn and progress was invaluable to our project and ultimately our success.

I am glad that Barb and Bobbi have decided to write this book. They are bringing not only their own expertise and years of experience in working with kids, but the best research currently available on learning and how teachers can structure their classrooms to maximize learning.

Hold on tightly. As you read this book, you will find yourself immersed in it, rereading several parts as the words, charts and examples strike deeply in how we all need to change our teaching behaviors to help students grow and learn.

Thank you, Barb and Bobbi, for providing this wonderful learning and resource guide and for caring so deeply for students everywhere.

Randy Watson, Ed.D.
2015 Kansas Superintendent of the Year
Kansas Commissioner of Education
Preface

The Evolution of This Book

It may be interesting for readers to learn how the CEO of the Quantum Learning Network headquartered in Oceanside, California, and a retired associate professor living in Alexandria, Virginia, became friends and decided to coauthor this book. We grew up in our professional roles without knowing one another, yet as we became acquainted we began to appreciate how our perspectives on teacher education overlap.

Barb’s Story

My journey toward writing this book began as a child when learning to read was a struggle. For some reason unknown to me, I was sent to work with the custodian in sixth grade whenever the class had reading. When enrolled in junior high, I was placed in the Opportunity Class for the retarded. Thank goodness my family moved to a small rural community where there was no such class. Eventually, I was reading at the beginning-second-grade level on entering tenth grade. I was very proud of myself for having read a whole book during that previous summer, but I soon realized that tenth grade was going to be just as difficult as the other years. Determined to improve, I persevered and gained ground in reading. As a result, a few years later I completed an associate of arts degree from Colorado Women’s College, and then a bachelor’s degree in elementary education at Kansas State University, a master’s degree in mental retardation at the University of Oregon, and a Ph.D. in education of the exceptional at The Catholic University of America. My minor area of study was psychology. To my great surprise, I received commendations for the defense of my dissertation, the first awarded in several years, I was told. During my doctoral program, Ideal School Supply Company published Alphabet Cue Cards (1975), a version of my “Sounds and Shapes from A to Z,” an illustrated picture book. With Gavin Reid, I co-authored Learning Styles: A Guide for Teachers and Parents in 1999 and revised it in 2000. Teaching to the Brain’s Natural Learning Systems (2002) is
my major publication. In addition, my publications include articles in refereed journals and professional publications, educational reports, and successful grant applications.

My teaching career began in 1955 and over the years I have taught all ages and levels of students with cognitive functions ranging from seriously mentally retarded to gifted and from second grade through doctoral-level students. In 1974 I initiated the Special Education Teacher Preparation Program at George Mason University, Fairfax, Virginia. The irony is that I was the first in my extended family to go to college.

Things went well. I was the first member of the education faculty to submit and receive a U.S. Department of Education federal grant. Monies expanded the newly initiated Special Education Teacher Preparation Program and its faculty. My methods of teaching psycho-education assessment were gaining a positive reputation in surrounding school divisions, and the Board of Visitors asked me to submit my papers to move from assistant to associate professor earlier than expected.

While at George Mason, I received awards for research and teaching as well as university, state, and federal grants for our program. After learning about a grant to work with the National Association of Secondary School Principals to study the application of learning styles to teacher preparation, I collaborated with leaders from Fairfax County Public Schools and became co-director of the Southeast Learning Styles Center, one of several learning styles centers around the world. As part of this experience, I attended training programs in Bernice McCarthy’s 4Mat System (1987) and in the Dunn and Dunn Learning Style Model (1992a; 1992b).

I learned a great deal from the Dunn and Dunn Model that propelled me into a deeper learning mode regarding how the brain functions. Together with leaders from the Fairfax County Public Schools, I conducted six annual learning styles conferences with a focus on how the brain learns. The more I understood various learning style models and gained new insights from neuropsychological and neuroscientific research, the more I realized the brain learns through interactions of neurobiological learning systems that had not yet been presented as a collective whole applicable to classroom practice. Consequently, after I wrote
a series of articles on individual systems, in 2002 the Association of Supervision and Curriculum Development (ASCD) published my understanding of how the brain learns in *Teaching to the Brain’s Natural Learning Systems*.

During this period of my own intensive learning, I was unhappy with how I was preparing teachers. I was doing what my former professors had done; I was professing—talking and talking. I had great PowerPoint visuals, but at some cognitive level I knew it wasn’t how I learned best, and I wasn’t comfortable teaching in ways that didn’t work for me.

In my thirst for knowledge and skill development, I attended many conferences on the relationship between brain behavior and learning. In 1989, I met Bobbi and QL’s chief learning officer, Mark Reardon, at the Society for Accelerated Learning and Teaching Conference in Chicago. I was enormously impressed with Mark’s presentation and asked Bobbi if I could visit SuperCamp during the summer. Her warm welcome propelled me to fly to Boston and present myself at the program. I liked what I saw and subsequently developed an on-campus practice-teaching summer program (Breakthrough Learning) based on Quantum Learning concepts. This program continued until Fairfax County Public Schools initiated summer programs for students with learning disabilities and/or emotional disturbances.

I felt comfortable with my QL-inspired revised manner of teaching and offered an elective course based on the need for teachers to know themselves before they can understand their students. Student ratings for this class were the highest I had received and I knew I was on the right track. Unfortunately, it was an elective course and the Virginia State Department of Education would not approve it as satisfying a requirement for Special Education certification, so it was dropped.

After retiring from the Graduate School of Education, I was invited to join the research faculty at the Krasnow Institute for Advanced Studies at GMU where I wrote and directed research grants and served as the co-director of the Adolescent and Adult Learning Research Center. I retired in 2007 and am now busy writing and, with my son, renovating a 104-year-old building to create the Stoplight Gelato Café in Richmond, Virginia. In addition to my son, I have a married daughter, a great son-in-law, and a wonderful puppy named Lola.
**Bobbi’s Story**

I experienced many of the core principles of Quantum Learning in the early seventies when I joined an innovative real estate and investment firm in San Francisco. The culture of the organization was considered to be of the utmost importance and all were expected to embrace its concepts. These included maintaining a positive supportive environment, developing strong trusting relationships, being responsible for our results, co-creating and keeping agreements, and aligning with the vision.

We were not only successful in sales, we were changing our lives and our clients’ lives for the better—and we were actually changing neighborhoods as well. Our model was written up in a national magazine and soon there were hundreds of people wanting to join the firm. Eventually, I left with one of the partners to cofound a residential program called the Burklyn Business School, to teach others the principles that made the firm so successful. One of the first things I observed at Burklyn was participants shifting from showing stress when called on—left over from school days—to becoming open and engaged learners. Many said they didn’t remember school ever being this much fun. This is where I became interested in how people learn. A visiting professor stated that he felt students were learning more in six weeks at Burklyn than in two years at a traditional business school.

The success of Burklyn was a direct result of having the privilege to study and interact with legends in the field of learning, and applying what we gained to our program. R. Buckminster Fuller, sometimes called the Leonardo da Vinci of our time, spoke at all of our programs until his passing in 1983. Among other things discovered during his time with us, we learned that synergy is doing more with less, environment is stronger than will, and commitment and curiosity are critical to learning. Dr. Georgi Lozanov travelled from Bulgaria to teach a small group in my home for three weeks in 1979. He taught us accelerated learning methods (what he called Suggestology) that include the importance of a positive atmosphere, the subtle impact of the physical environment, the value of teacher credibility and tone, and the organizational structure of his teaching cycle, which is the basis of the Quantum Learning Teaching Cycle. We also engaged the Learning Methods Group from the UK and learned about memory, Mind Mapping, and reading skills.
As Burklyn students experienced shifts in learning and in their ways of looking at life, they wanted a similar program for their children, so in 1982 I teamed up with Eric Jensen and Greg Simmons to start a ten-day summer learning and life skills experience for teenagers called SuperCamp. My partners left for other endeavors and my husband Joe Chapon and I have since grown SuperCamp to programs held on university campuses across the U.S. and in 14 countries. We now have more than 70,000 SuperCamp alumni and many second-generation students attending.

As our program expanded across the country, teachers and principals began to notice changes in their students when they returned to school after SuperCamp, and we soon received invitations from schools to train their teachers in our methods. In response to this demand, we developed Quantum Learning Education in 1991 and began partnerships with schools and districts to deliver Excellence in Teaching and Learning programs for educators, administrators, and students. The Quantum Learning Excellence in Teaching program is the basis for this book. Joe and I continue to lead our organization, Quantum Learning Network (QLN), and estimate that QLN has impacted more than 100,000 teachers, reaching ten million students over the last 30 years.

As Barb stated, she and I met at a Society for Accelerated Learning and Teaching Conference (the name was eventually changed to International Alliance for Learning, IAL), an association formed to further the work of Dr. Georgi Lozanov. I later served as president of the association for several years, and learned much from its members. After our meeting, Barb came to visit SuperCamp and, as they say, the rest is history. We discovered our shared passion for teaching and learning and became friends.

I've written or co-written more than a dozen books on learning and teaching that have been translated into seven languages. These include Quantum Learning (1992), Quantum Business (1997), Quantum Teaching (1999), Quantum Success (2006), The Seven Biggest Teen Problems and How to Turn Them into Strengths (2006) and The 8 Keys of Excellence (2000).

The 8 Keys of Excellence, our character-building principles to live by, are foundational to all Quantum Learning programs. Developed during the second year of SuperCamp, the principles were quickly embraced by staff and students who
shared personal stories, activities, and reflections about how the Keys changed their thinking, their behaviors, and their interactions with others.

Excellence is different from success. Excellence becomes the enduring core of who we are and what we represent. Success is an accomplishment, an end result. Living by certain principles can lead to success. The concept of success principles is well documented in Napoleon Hill’s (1937) classic book *Think and Grow Rich*. Andrew Carnegie, known as the “Steel King” in America, commissioned Hill at about the turn of the century to discover the common principles or attributes of successful people. I grew up with these philosophies. My father studied the book, discussed the principles with others, and applied them in his own life.

The Excellence Effect, a campaign to bring the 8 Keys of Excellence to youth everywhere, received the first Humanitarian Award of the Transformational Leadership Council, of which I am a member. The 8 Keys are also the basis of Communities of Excellence, adopted by cities and school districts. Character and the 8 Keys of Excellence are discussed in detail in this book.

My son and daughter attended the first SuperCamp, and my granddaughters have now also attended. I continue to be passionate about creating shifts in learning.

**Organization of the Book**

We begin with an introduction on teacher effectiveness, followed by overviews of the Brain’s Natural Learning Systems and the Quantum Learning System and their integration into a conceptually viable comprehensive instructional system.

The focus of Quantum Learning is to develop effective teaching based on knowing *why* specific QL approaches are effective. Evidence for success is found in research pertaining to the brain’s natural neurobiological learning systems (social, emotional, implicit, cognitive, physical and reflective).

The book includes two main sections—Components of Culture and Components of Cognition.
Components of Culture

- Part One, *Social Learning* and developing a *Foundation* for learning
- Part Two, *Emotional Learning* and creating an *Atmosphere* conducive to high achievement
- Part Three, *Implicit Learning* as determined by circumstances in the learner’s *Environment*

Components of Cognition

- Part Four, *Cognitive Learning* and the *Design* of instruction
- Part Five, *Physical Learning* and how to effectively *Deliver* instruction
- Part Six, *Reflective Learning* and how reflection can *Deepen* learning so students can make it their own

Each of the parts is divided into two chapters. The first discusses the learning system with insights into brain functions. The second describes the corresponding Quantum Learning component.
INTRODUCTION

We believe people choose the teaching profession because they want to make a positive difference in the lives of students. We also believe that many teachers lack the knowledge and skills to be as effective as they dream of being. From teacher feedback during our professional development programs, we are aware that much of the knowledge required for excellence in teaching is not taught in higher education teacher preparation courses. Therein lies the primary contribution of this book to the teaching profession. To us, excellence in teaching relies on

1. believing that all students can learn and succeed when taught by effective teachers,
2. uncompromising honesty about our own teaching proficiency,
3. commitment to ongoing personal and professional growth,
4. being open and receptive to new learning,
5. embracing and implementing best teaching practices based on research evidence, and
6. a strong desire to excel as a teacher.

Teacher Effectiveness Makes the Difference

Much is expected from teachers and often there is little direction or explicit support on how to achieve required results. At the School Superintendents Association’s 2013 National Conference on Education, Joe Willhoft, executive director of Smarter Balanced Assessment told the audience that the “Common Core State Standards specify K–12 expectations for college and career readiness” with the resulting mandate that “All students leave high school college
and career ready.” Willhoft (2013) pointed out that what’s missing is what comes between the expectations (standards) and the goal (college and career ready). “Currently things are not in place for students to leave [K–12 schooling] college and career ready,” he stated. “Teachers need information and tools to improve,” Willhoft stressed. Toward this end, we offer *Excellence in Teaching and Learning* as a comprehensive approach for how to achieve the desired goal that students leave high school prepared for success in college and career.

Figure 1: Putting the How into Goal Attainment

<table>
<thead>
<tr>
<th>Expectation</th>
<th>How</th>
<th>Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students achieve</td>
<td>Information and tools to</td>
<td>College and career ready</td>
</tr>
<tr>
<td>standards</td>
<td>improve teaching and learning</td>
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Adapted from Smarter Balanced presentation by Joe Willhoft, 2013

After years of observing classroom teachers, we are convinced that a major difference between ineffective and highly effective teachers lies in their design and delivery of instruction—how well they design what they teach and how effectively they deliver what they design. How well they know the content and understand effective teaching methods as well as the research that supports them are also fundamental to teaching success. Our observations are supported by two major research studies briefly discussed below.

John Hattie (2009), an Australian researcher, analyzed numerous meta-analyses and from his huge database of individual and collective studies, Hattie learned that 80 percent of student achievement is due to two factors: 50 percent is attributable to student ability and disposition and 30 percent is due to teacher effectiveness or lack thereof.

The 30 percent variance in student achievement attributed to teachers identifies teachers as having more influence than all other variables combined. That is, teachers influence student learning more than any combination of the following: student home conditions, family income, peer pressure, class size, school policies, the principal, amount of money spent on education, or the racial mix of the
classes. Hattie says, “It is what teachers know, do, and care about which is very powerful in this learning equation” (2003, p. 3). He goes on to say,

I therefore suggest that we should focus on the greatest source of variance that can make the difference—the teacher. We need to ensure that this greatest influence is optimized to have powerful and sensationally positive effects on the learner. (p. 4)

Hattie’s goal is “ascertaining the attributes of excellence—because,” he reasoned, “we then have the basis for developing appropriate professional development, the basis for teacher education programs to highlight that which truly makes the difference, . . . and the basis for a renewed focus on the success of our teachers to make the difference” (Hattie, 2003, p. 1).

To follow through with what teachers need to “know, do, and care about,” Hattie and his colleagues prepared a team to observe 300 teachers in the United States. From this group, they selected a subsample of 65 who had applied for K–12 National Board for Professional Teaching Standards (NBPTS) certification. Hattie calls the NBPTS “the most comprehensive assessment of teaching yet devised” (2003, p. 10). Thus, we can place great confidence in the NBPTS results as viable measures for differentiating excellent teachers from those who are experienced but less than expert.

The 65 teachers were divided into two groups: experts, those who passed the NBPTS assessment, and experienced, those who did not pass. Trained observers then spent hours collecting observational and other data on each teacher without knowing which had been identified as expert. From their resulting data, critical differences between the two groups revealed that expert teachers

A. can identify essential representations of their subject,
B. can guide learning through classroom interactions,
C. can monitor learning and provide meaningful feedback,
D. can attend to affective attributes, and
E. can influence student outcomes (Hattie, 2003, p. 6).
Sixteen attributes contribute to these five general dimensions that distinguish expert from experienced teachers. We share a few salient findings and encourage teachers to read Hattie’s books (2009, 2012, Hattie & Yates, 2014) and study his Internet articles and slide presentations for more depth of understanding. In the meantime, as you read the following synthesis of the attributes clustered in the above five areas of difference, we encourage you to think about which of your actions align with expert teaching.

A. **Expert teachers can identify essential representations of their subject.** Even though subject matter knowledge (course material) of the two teacher groups does not differ, how they organize and use what they know does. Experts combine new subject matter content with prior student knowledge; relate content across the curriculum; and change, combine, and add to lessons based on student needs and goals. They understand what it takes for students to succeed, and they take time to develop content so it is meaningful to them. Expert teachers can recognize problem-solving difficulties, formulate hypotheses, check, test, and adjust them to promote student success. Hattie says “expert teachers are VERY context bound, and find it hard to think outside the specifics of their classrooms and students. Generalization is not always their strength” (Hattie, 2003, p. 7, author emphasis).

B. **Expert teachers guide learning through classroom interactions.** Expert teachers are proficient at creating an optimal classroom climate for learning. They provide opportunities for feedback, error correction, student questioning, and engagement that result in effective learning. They scan classroom behavior and use student language for instruction and effective learning. By contrast, experienced teachers focus on what the teacher does and says, while experts use existing context, surroundings, and particular circumstances to create learning scenarios.

C. **Expert teachers monitor learning and provide meaningful feedback.** Expert teachers effectively monitor student problems, assess students’ level of understanding and progress, and provide relevant, useful feedback. They anticipate and prevent disturbances, have a wide anticipation scope, and gather student information selectively. Due to their responsiveness to students, experts detect diminished interest or lack of understanding. They filter relevant from irrelevant information, and insightfully monitor, understand,
and interpret details of events to make feedback more helpful to students. Both teacher groups automate well-learned routines. The difference is that experts use this skill to free working memory for attention to other aspects of the teaching/learning action, while experienced teachers tend to focus on the routine.

D. **Expert teachers attend to affective attributes.** Expert teachers demonstrate high respect for students as learners and people. These attributes are reflected in their manner, expression of caring, commitment, and receptiveness to student needs. Thus, they avoid placing a psychological distance between themselves and students. They recognize potential barriers to student learning and seek ways to overcome them. Expert teachers are passionate about teaching and learning. They take responsibility for student learning and show more emotionality about successes and failures in their work than do experienced teachers who lack expert status.

E. **Expert teachers influence student outcomes.** Expert teachers engage students as learners in developing surface and deep knowledge, enhanced self-efficacy, self-concept, and self-esteem. They provide appropriate challenging tasks and goals for students to promote mastery rather than performance or do-your-best outcomes. The majority of class time engages students in challenging tasks rather than teacher talk. As a result, students gain a firm knowledge base that relates to and extends ideas that prompt them to intentionally seek understanding and make meaning of what they are learning.

The importance of teachers cannot be overstated. Many well-respected research studies confirm that teachers are the most important controllable variable in students’ academic achievement (Brophy, 1979; Coe, Bell & Little, 2008; Darling-Hammond, 2000; Harris & Rutledge, 2010; Hattie, 2009; Hattie & Timperley, 2007; Sanders & Rivers, 1996). One such study involved three million mathematics, language arts, reading, social studies, and science records for students in grades two through eight in Tennessee, beginning in 1990 and continuing through 1996 (Wright, Horn & Sanders, 1997).

Sanders and his colleagues examined years of data and tracked which teachers worked with which students. They then evaluated all the standardized test scores across subject matter to determine teacher effectiveness. This approach, they
reasoned, was the closest they could come to determining effectiveness absent years of personal observations across a huge number of teachers throughout Tennessee. Harris and Rutledge (2010, p. 918), experts in teacher evaluation, agree. How this study was conducted and the large number of teachers and students involved make the results highly meaningful.

Key insights predate and verify Hattie’s later findings as follows:

- A wide variation of effectiveness exists among teachers. The immediate and clear implication is that more can be done to improve education by improving the effectiveness of teachers than by any other single factor.
- Differences in teacher effectiveness were found to be the dominant factor affecting student academic gain.
- Effective teachers were effective with students of all achievement levels, regardless of race, socioeconomic level, class size, and level of heterogeneity in their classrooms, indicating that these factors are poor predictors of student academic growth.
- Students in a class with an ineffective teacher achieve inadequate academic progress regardless of the range of current achievement levels in the class.
- Teacher effects on student learning as inferred from standardized test scores are additive and cumulative over grade levels with little evidence of compensatory effects.
- Students in classrooms of very effective teachers following relatively ineffective teachers, make excellent academic gains but not enough to offset previous evidence of less than expected gains (Wright, Horn & Sanders, 1997, pp. 63–66).

Sanders and Rivers (1996) underscore the fact that no recovery exists from a year with an ineffective teacher even though the next year’s teacher might be highly effective. Further, if students have three ineffective teachers consecutively, they have no hope of catching up; a 50-point achievement discrepancy is virtually impossible to overcome, even later when students are fortunate enough to have expert teachers. Sanders and Rivers (1996) conclude that
Administrators have undeniable opportunities to minimize the near-permanent retardation of academic achievement of many students resulting from experiencing the most hurtful teacher sequences. If the magnitude of the cumulative effects is not diminished, then students are de facto being placed involuntarily in a lottery where the “luck of the draw” of the teacher sequence may play a most important role in their life’s opportunities. (p. 6)

For example, the researchers found a percentile range of 50 points in mathematics for similar students assigned to effective versus ineffective teachers. They state in bold letters: “Differences of this magnitude could determine future assignments of remedial versus accelerated courses” (p. 6). If applied to IQ, a 50-point difference could be 75 versus 125. That’s the difference between eligibility for special education for developmentally delayed students compared to eligibility for a gifted program. That’s huge!

Three additional findings from this study are of enormous importance and they underscore those found by Hattie:

1. As teacher effectiveness increases, lower-achieving students are the first to benefit.
2. No factor—not race, culture, background, ethnicity, ability level, or any other factor—is as significant in student achievement as the effectiveness of the teacher.
3. Teachers at the highest levels of effectiveness are the only ones effective with all students. That is, on a five-level system measuring effectiveness by student scores, only highly effective (expert) teachers are effective with low-achieving to high-achieving students.

Preparing highly effective expert teachers is what this book is about.
Excellence in Teaching and Learning – Concepts and Terms

This book is a collaboration to combine concepts from DePorter’s Quantum Learning System (components of culture and cognition) with Given’s synthesis of the Brain’s Natural Learning Systems (social, emotional, implicit, cognitive, physical, and reflective). Concepts specific to both are system and learning while terms unique to Quantum Learning are quantum and atom.

Systems. The Brain’s Natural Learning Systems and the Quantum Learning System are open, living systems. Ford states, (1) a system is composed of interacting or interdependent components and subcomponents that form an integrated whole, (2) all parts of a system influence every other part in some way, (3) an open system continuously interacts with its environment or surroundings, and (4) a living system evolves while maintaining its own complex organizational integrity (1987).

Although the brain’s individual neurobiological learning systems can be studied separately, none of the systems can function without the others. The same is true of the cultural and cognitive components of the Quantum Learning System. QL’s power is enhanced when its components are orchestrated with the brain’s natural learning systems. Even so, a system is a system basically because it maintains its integrity as a whole even when integrated with other systems.

Learning. A basic definition of learning is the acquisition of knowledge and skills as well as modification of a behavior. In QL we emphasize that learning results in academic and personal growth. Taking it further, deep learning requires making connections and associations, shifting perspectives, and developing new ideas—in other words, creating cognitive change. Deep learning is achieved by applying higher order cognitive skills such as critical thinking, asking insightful questions, analyzing, problem solving, decision making, and effective learning strategies.

Quantum. Quantum Learning borrows the physics term quantum and modifies it for educational purposes. As used in physics, quantum means a discrete quantity of energy, momentum or electric charge that is in direct proportion to radiation frequencies (wave patterns) the energy represents. Educationally, Quantum Learning represents mental energy and brainwave patterns produced by learning as the teacher orchestrates interactions between students and
content. Deep thinking and understanding produce a radiance seen as joy, competence and confidence in learning.

**Atom.** The ellipses of the atom icon represent Quantum Learning’s components of energy generation identified as critical to the learning process—Foundation, Atmosphere, and Environment (culture), and Design, Deliver, and Deepen (cognition).

In atomic physics or quantum mechanics, an atom’s nucleus is composed of two particles—protons and neutrons. As adapted, the two particles in QL’s atom icon represent the teacher and students. Energies combined via dynamic interactions shift attitudes, beliefs, and behaviors—and enhance student learning, competence, and confidence.

Admittedly, QL’s use of *quantum* and an *atom* to reflect the radiance of engagement and satisfaction in learning is a play on words. Nonetheless, when QL is seen in action, the dynamic atom represents the whole of observed teacher/student and student/student interactions. We trust that those with a background in physics will accept QL’s use of quantum to explain an educational process and the use of an atom as its icon to represent that process.

Additional research from neuroscience, psychology, and education strengthen both the learning systems and QL approaches to teaching and learning. The two are synergistic concepts—their interactions create a combined effect on education that is greater than either alone.
I

OVERVIEWS:

THE BRAIN’S NATURAL LEARNING SYSTEMS,
THE QUANTUM LEARNING SYSTEM,
AND THEIR INTEGRATION

Chris walked into her classroom looking forward to the day. It wasn’t always this way.

Years ago as a new teacher she thought she was well prepared until she began the lesson and students didn’t respond how she intended. Over time she questioned her ability to be an effective teacher and her passion for teaching began to wane. Today Chris enthusiastically started a new unit as she was confident she’d get the response she wanted—engaged students eager to participate. The “shift” that happened for Chris reshuffled long-held patterns. It took work, planning and practice, but most of all Chris is now equipped with a system that works time and time again. She has regained her confidence and passion for teaching. The shift? A direct result of the Quantum Learning System.

What is the Quantum Learning System and why was Chris successful when implementing it? What were the mindsets, models, and strategies that transformed Chris’s effectiveness as a teacher and also led to the personal and academic success of her students? These are the primary questions answered in this book. Let’s begin with an overview of the Brain’s Natural Learning Systems and the Quantum Learning System, and the integration of these systems to produce what we call Excellence in Teaching and Learning.
The Brain’s Natural Learning Systems and the Quantum Learning System have developed over time: the QL System over the last three decades and, of course, the Brain’s Natural Learning Systems over eons. It was the recognition of the integrity of the systems and how they naturally align that focused heightened clarity on effective teaching and learning.

**The Brain’s Natural Learning Systems**

Research shows that the brain develops six learning systems that constantly function simultaneously even though we may not be aware of their ongoing activity.

The brain’s natural learning systems are open systems subject to change while maintaining their consistent structures and functions. In her book, *Teaching to the Brain’s Natural Learning Systems*, Given includes emotional, social, cognitive, physical, and reflective systems, but *implicit learning* was viewed as cultural aspects of social learning rather than a separate system in its own right. It is now understood to be a learning system with its own characteristics and nuances.

For the purposes of this book, the brain’s natural learning systems are considered as they relate to culture and cognition, as follows:

**Culture**

- The **social learning system** relates to our interactions with others both within and outside the accepted mores of our culture or community.

- The **emotional learning system** relates to our feelings—positive and negative—and their effect on our ability to focus, achieve, and succeed, as well as their influence on how we relate to others.

- The **implicit learning system** relates to how we nonconsciously learn from and are influenced by the culture and physical environment in which we live and learn.
Cognition

- The **cognitive learning system** relates to thinking about, processing, questioning, and storing of information.

- The **physical learning system** relates to sensory modalities (visual, auditory, tactual, and kinesthetic) with a special emphasis on hands-on learning and body movement.

- The **reflective learning system** relates to analysis of results for continued growth.

School has traditionally activated the cognitive learning system for reading comprehension, mathematics calculations, information processing, memorizing, and understanding content to be learned. Even then, the cognitive system has been narrowly activated in many classes because critical thinking and problem-solving skills, as well as teaching students how to ask questions and other cognitive processes above and beyond what is commonly thought of as traditional education, have been given limited attention.

Much has been written about teaching to an individual’s learning style or preferred modality, but we now know the brain needs all learning systems stimulated through deliberate active participation with hands-on manipulatives, whole body movement, collaborative skill development for social growth, discussions of emotions for better understanding of self and others, and reflective thinking that fosters growth and learning. Also, we now know that materials and wall decorations and their organization in the classroom environment impact the brain’s implicit learning. Additionally, we know that unless students are taught how to ask themselves questions and reflect on what they say, do, and learn, their learning will be shallow at best.

As noted, the brain’s natural learning systems are neurobiological structures with researched functions that provide a strong base for educational practice. Knowing what scientists are learning can guide educators into more effective teacher/student and student/student interactions that produce higher student achievement. Knowledge of the brain’s natural ways of learning sheds light on why the Quantum Learning System is effective.
THE QUANTUM LEARNING SYSTEM

The Quantum Learning System focuses on culture and cognition while orchestrating interactions between teachers and students, students and students, and students and content to reach desired academic and social/emotional outcomes.

Quantum Learning is a system that artfully orchestrates learning and increases teacher effectiveness while facilitating student mastery of rigorous academic content. The Quantum Learning System focuses on what teachers and students do to teach and learn effectively.

Teaching and learning are open, dynamic, and complex systems. The QL System is flexible enough to embrace changes in education and research from the neuroscience community, while at the same time remaining stable and consistent with its core principles and beliefs. As mentioned earlier, both the Brain’s Natural Learning Systems and the QL System are considered in relation to culture and cognition. The QL System components are as follows:

Culture

- **Foundation** relates to an aligned community of learners who know how to collaborate and interact effectively with one another.
- **Atmosphere** relates to a positive and respectful emotional climate where students feel safe to take cognitive and social/emotional risks.
- **Environment** relates to a physical space that supports the classroom culture and enhances learning.

Cognition

- **Design** relates to the planning and purposeful crafting of instructional lessons that create student engagement, understanding, and retention.
- **Deliver** relates to the skillful facilitation of the designed lessons in a manner that increases student participation, competence, and confidence.
Deepen relates to review, assessment, feedback, and reflection that solidifies understanding and retention.

The teacher is responsible for establishing a supportive and enriching culture and for designing and delivering the instructional lessons for cognition so all students learn in socially, emotionally, and physically safe classrooms and schools.

Quantum Learning embraces four research-based neurophysiological facts that profoundly influence effective teaching. We call them the QL Brain Basics:

- Neurons that fire together wire together. (Hebb, 1949/1964)
- Attention is necessary for learning. (Lefrancois, 2000)
- Students make meaning by connecting to existing knowledge and schema. (Resnick, 1983)
- Mental imaging supports understanding. (Sadoski, 1998)

Teaching in alignment with these brain basics increases students’ ability to learn new content.

The Integration of the Brain’s Natural Learning Systems and the Quantum Learning System – Excellence In Teaching and Learning

As described earlier, the Brain’s Natural Learning Systems and the Quantum Learning System are aligned concepts that support each other. In QL, these integrated systems are divided into components of culture and components of cognition. The three components of culture that align with the brain’s natural learning systems are foundation (social learning system), atmosphere (emotional learning system), and environment (implicit learning system). The three components of cognition that align with the brain’s natural learning systems are design (cognitive learning system), deliver (physical learning system), and deepen (reflective learning system). See figure 2.
Figure 2: Integration of the Quantum Learning System and the Brain’s Natural Learning Systems

Excellence in Teaching and Learning

 COMPONENTS OF CULTURE

- Social Learning Foundation
  - 8 Keys of Excellence
  - Character Building
  - Building a Community of Learners
  - Decision Making
  - Common Procedures & Agreements
  - Shared Purpose & Vision
  - Shared Intention
  - Expectations, Values, Beliefs

- Emotional Learning Atmosphere
  - Home Court Advantage
  - Safety-Rapport
  - Support-Acknowledgments
  - Belonging-Traditions
  - Comfort Zone
  - Learning Zone
  - Academic Risk Taking

- Implicit Learning Environment
  - Dual-Planed Nonconscious
  - Peripherals
  - Props
  - Plants
  - Seating

 COMPONENTS OF COGNITION

- Cognitive Learning Design
  - Prepare Learner
    - Pique Curiosity
    - Elicit Knowledge & Schema
    - Interest
    - Novelty
    - Story
    - Attention

- Physical Learning Deliver
  - Facilitate Learning
    - Teach New Content
    - Prompt Active Engagement
    - Multi-model Teaching
    - Questioning
    - Collaboration
    - Thinking
    - Communication
    - Creativity
    - State Management
    - IBA
    - Music

- Reflective Learning Deepen
  - Solidify Learning
    - Verify Understanding
    - Guide Accountability, Reflection & Application
    - Ongoing Assessments
    - Corrective Feedback
    - In-Depth Reflection
    - Record Keeping
    - Goal Setting
    - Celebration

16 — Excellence in Teaching and Learning
II

COMPONENTS OF CULTURE

As with all natural learning systems, cultural learning systems—social, emotional, and implicit—occur naturally as a result of our species; they are integral aspects of human life. On the other hand, culture is the term given to how peoples around the world choose to express their beliefs, establish customs, and practice religions within their environments. The intermingling of the social and emotional systems creates expressions that are evident in all aspects of our lives. One system cannot realistically be separated from the other except for the sake of discussion.

Culture involves human actions and skills that reflect a civilization’s prevailing attitudes, beliefs, values, and customs as seen in the predominant insights and worldviews of its citizens. These social behaviors are what distinguish one group of people from another. Richard Dawkins (1976/1989), author of The Selfish Gene, states that “most of what is unusual about man can be summed up in one word: ‘culture’” (p. 189). Similarly, Csikszentmihalyi (1993) writes that “survival and self-esteem depend on those among whom we are born . . . to be human we need the instructions transmitted through culture almost as much as we need genetic instructions. How else would we [learn to] talk, read, count, think?” he asks rhetorically.

“Cultural transmission,” Dawkins states, “is analogous to genetic transmission in that . . . it can give rise to a form of evolution” (p. 189). Even though the evolution of cultures differs across groups regarding specific beliefs, religions, character development, and accepted ways of behaving, all peoples are born
with the need to be with and to learn from others. This need is basic to how a culture is formed. Even though each culture has its unique ways of exercising and manifesting the learning systems, common manifestations across cultures allow peoples around the world to share and often exchange customs, beliefs, religions, insights, and educational practices.

Further, all humans share common emotions that reveal themselves in facial expressions; fear, anger, sadness, joy, and other emotions produce similar facial manifestations that are recognizable across cultures. In addition, humans develop beliefs and implicit memories of the ways things are done in their communities even though no specific instruction is given. Therefore, the concept that most of what is unusual about man is culture, leads us into consideration of school cultures and how they function.

Dawkins recognizes that changing cultures is a slow process just as genetic evolution is slow. For example, new schools open with great intentions, but over time some develop a negative culture that must be changed to enhance the pleasure of schooling and student achievement.

Changing a subset of a larger culture is much easier than changing the culture of a community, region, or country. In the process of cultural change from negative to positive, however, things may seem to get worse rather than better. Why does this happen? First, it’s important for change agents to recognize how negative change can often occur more easily than positive change. Csikszentmihalyi (1993) points out that “a culture . . . tends to use individuals as vehicles for its own survival and growth” (p. 71). This is a powerful insight into social change—both positive and negative.

For example, a positive school culture can evolve within a few months when the entire educational team—administrators, teachers, custodians, kitchen staff, parents, and students—commits to the process of change and all are aligned on what the result of that change will look like. We have seen school cultures transform themselves when school personnel collectively commit to a Quantum Learning school culture and stick with it.

Rapid transformation, however, can be a bit frightening unless possible emotional/social ramifications, including the impact on parents and students,
are taken into consideration before the change is instituted. In QL schools, all those involved in creating change have a responsibility for sustaining a culture of social, emotional and environmental safety by interrupting and stopping actions that undermine the overall goal. This includes all forms of negative interactions among adults as well as students no matter how seemingly minor they appear.

To restate Csikszentmihalyi’s (1993) quotation above, “a culture . . . tends to use individuals . . . for its own survival and growth.” This is why serious attention must be given to the entire school culture and what it promotes. But how does a school culture use individuals “for its own survival and growth”?

We know that cultures are collections of individuals. As such, if we don’t adjust to a particular culture, we may be shunned, ostracized, made to feel less than worthy of that particular group. Thus, when a school culture is one of in-groups and outsiders, one of negativism and bullying, individuals either have to join the group culture or suffer the consequences. If those within a negative group fail to engage in negative behaviors, they soon become part of the out-group, the losers, the nerds, or whatever other terms negative group members impose. Surprisingly, some of the most negative groups are composed of the most popular students who tend to see themselves as the elite and limit membership accordingly.

Conversely, students who don’t fit into the “popular” groups, tend to form their own groups based on interests and behavior patterns. As a result, too many of our middle and high schools have demonstrated negative cultures of various groups that limit membership. If a student wants no part of the negativity, the negative culture ostracizes or harasses them until they support the very behaviors they detest, thereby ensuring survival and growth of negative cultures. Once they become a full-fledged member, or believer, it is difficult to denounce what they have embraced.

Flip that around. If a school culture is positive, if everyone respects everyone else and group membership is open to all, those who are negative soon find themselves wanting to join the group rather than be on the self-imposed sidelines. The difference is that in negative cultures, individuals are coerced, often subtly, to join and support survival and growth of the culture, whereas in a positive culture, students are encouraged to join the group through respect,
encouragement, and acknowledgments. The Quantum Learning System is designed to build positive classroom and schoolwide cultures based on specific directives that support this outcome.

QL teachers consistently practice a special set of responsibilities called the Quantum Learning Directives—Directives of Culture and Directives of Cognition. These core beliefs are applicable across all subjects, classes, teachers, students, settings, activities, and circumstances. QL holds these directives as basic truths for excellence in teaching and as critical considerations leading to student achievement.

**QL Directives of Culture**

The QL Directives of Culture constantly remind us of the importance of what we say and do as effective teachers. Implementation of these directives facilitates a well-defined foundation, atmosphere, and environment that supports and fosters a positive culture of learning.

**Build Character**

Character promotes academic and personal excellence.

Quantum Learning is committed to the concept of students being prepared for success in college and career by the time they graduate from high school. To accomplish this goal, we believe preparation must be grounded in solid principles of character and that instilling these principles and behaviors should begin during pre-school and extend throughout schooling. Success in life hinges on principles of citizenship and character.

**Send Intentional Messages**

*Everything speaks.* Everything we say and do sends a message that is either positive or negative—there is no neutral.

Whether it’s actions, interactions, body language, quality and formatting of handouts, posters, display of student
work, room arrangement, teacher’s manner of dress—
everything speaks. Everything that takes place in the class-
room sends a message, but only students can decide what
the message is and what it means to them. Knowledge
of everything speaks means we view the classroom and all
that’s in it with consideration of what message it sends.

**Know Their World**

*Theirs to ours, ours to theirs* is an authentic and effective
way to build rapport with students so they are open to
new learning.

In the QL System, we have a basic belief that unless we
enter our students’ world—meet them where they live
musically, technologically, or in other ways—they will be
hesitant to enter our world of expected behaviors and
academics. *Know their world* can be stated as *Theirs to
ours, ours to theirs*. First we need to understand a student’s
world. When students *get* that we understand them and
care about them, they are more likely to engage in serious
learning. Consequently, they are more likely to follow us
into our world—*our world* being the content we want
them to learn. Then, when taught effectively, students
take their new learning back to their world where they
apply it in meaningful ways. Our goal is to build aware-
ness of our students’ world. This does not mean that we
act like a student or even become pals with students. It
means that teachers must earn the right to teach each
new group, and students are the only ones who can give
us that right. To enter our students’ world, we must be
authentic so we transport students into new, comfortable
cognitive ways of viewing our world.
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Student effort and perseverance demonstrate commitment to learning and are worthy of recognition.

Students like to be acknowledged. Noticing and sharing our awareness and appreciation of individual student effort is an important element of teaching. Learning requires work. It’s a choice, a conscious decision with deliberate action that involves taking emotional, academic, and social risks. Acknowledgment differs from praise. Praise is a personal compliment that may have nothing to do with the task being accomplished or the effort expended. Acknowledging effort and specific aspects of task completion can be critical for student success because it puts the focus where we want it—students making a choice and exerting effort to learn. In acknowledging students’ efforts we build their confidence and promote their self-efficacy. Depending on the student, effort can be acknowledged in a one-on-one conversation or in front of the class.
The social learning system relates to interactions with others both within and outside the mores of a culture or community.

The social learning system evolved naturally as humans clustered in communities for survival through collective problem solving, collaboration, and development of social codes of conduct. Within each group, the code of conduct led to a culture appropriate for that group. Those who violated the code were ostracized and left to fend for themselves against the elements.

In today’s world, we think of culture as the sum of specific characteristics—attitudes, values, beliefs, policies, political views, and religious practices—of a particular group of people that distinguish it from other groups. Similarities exist across cultures, however, that make it possible to engage in meaningful discourse. These include attitudes, values, beliefs, practices, and social behaviors that researchers now call noncognitive skills, soft skills, social skills, personality
traits, and character (Heckman, 2012; Heckman & Kautz, 2012). By whatever name, these skills are not religious, spiritual, secular, or moralistic. They are skills expected in all cultures around the world to cultivate civil discourse and personal responsibility. While members of individual cultures may differ in how they demonstrate their “soft skills,” these skills promote communication, collaboration, and collective problem solving that impact all members of a group for such things as what procedures, agreements, and rules to follow.

Quantum Learning highlights the importance of cultural soft skills of learning by instilling the 8 Keys of Excellence (DePorter, 2000) as common guiding principles to live by. Although cultures may vary on what the principles are called and how they are practiced, they can be found throughout the world—“and most Americans believe they should be taught” (McWhirter et al., 1998, p. 293).

**THE IMPACT OF SOFT SKILLS ON LEARNING**

Soft skills are significant elements of social learning that impact both personal and academic success. Although it is almost impossible to study the exclusive impact of social learning, intuitively we know they have great importance. In a report from the University of Chicago, “Teaching Adolescents to Become Learners: The Role of Noncognitive Factors in Shaping School Performance,” the authors (Farrington et al., 2012) point out that social skills are critical for adolescents in readiness for citizenship and careers. Further, they state, “In the primary grades, social skills are also logically related to academic performance. For example, it stands to reason that cooperating in groups or participating appropriately in class discussions would lead to better academic performance” (p. 11).

In other words, social skills impact learning and learning impacts grades. Of all the social skills, one of the most important a person can learn is empathy. Empathy is the ability to identify with and understand the feelings of another, and show compassion toward that person. This process makes empathy a social and emotional skill. “Empathy builds on emotional self-awareness [and] is the fundamental ‘people’ skill. People who are empathic are more attuned to the subtle social signals that indicate what others need or want” (Goleman, 1995,
Empathy is relating to other people, imagining oneself in their place, and, in some ways, matching and mirroring (imitating) their feelings and actions.

**IMITATION**

Goleman (2006) claims that the “social brain represents the only biological system in our bodies that continually attunes us to, and in turn becomes influenced by, the internal state of people we’re with” (p. 10). This truth was revealed when in 1996 Rizzolatti et al. were studying macaque monkeys and discovered something that surprised them. By using magnetic resonance imaging (MRI) they found that a particular class of visuomotor neurons light up when a monkey moves his hands, feet, or mouth, and that the same areas light up when a monkey watches another monkey or a human move his hands, feet, or mouth. It doesn’t matter if the monkey actually performs the movement or if it simply watches another monkey or a person; the same areas of his brain light up. No wonder they call the involved brain cells *mirror neurons*. The idea *monkey see, monkey do* comes to mind, but that’s far too simplistic.

Later research seemed to reveal that mirror neurons are also found in humans and may have direct application to education. For example, activation of mirror neurons in the language control center “is connected with the recognition not only of sounds produced by persons engaged in verbal communication but also of phonetic movements of the mouth and face” (Changeux, 2002/2004, p. 129). Thus, mirror neurons (imitation neurons) appear significantly correlated with language, speech, and development of decoding skills for reading. Without question,

*imitation plays an important role in skill acquisition—and not merely because it avoids time-consuming trial-and-error learning. Observing and imitating is also a special case of the translation of sensory information into action.* (Wohlschläger & Bekkering, 2002, p. 101)

The role of mirror neurons in this process, however, is highly controversial. Even though neurons in the same areas of a monkey’s brain fire when
watching and when doing, imitation of behaviors is not automatic. In humans, for example, students can decide if a teacher is worthy of emulation, which implies some “similarity of goals and intentions.” This makes a strong point for the QL Directive Know their world because imitation of “goals and intentions . . . requires that the imitator understands the action of the model . . . thus, action understanding is a prerequisite for imitation” and another reason why teacher comments and behaviors need to be clear models of what is expected from students (Wohlschläger & Bekkering, 2002, p. 111). Therefore, it’s not just monkey see, monkey do. It’s monkey see, more appropriately in this discussion, student see, and determine what the actions mean and then decide to do (imitate) or not to do.

For instance, as parents and teachers model—or fail to model—respect and citizenship characteristics and goal-setting behaviors, children and youth observe these behaviors and begin to form their own specific goals. Because students make decisions about whom to imitate and whom to ignore, they may creatively imitate a specific adult by putting their own spin on what they observe. As Wohlschläger and Bekkering (2002) state, “a goal-directed theory of imitation also gives room to creativity in imitation, because the way the goal is achieved is left to the imitator” (p. 101). These are all powerful individual outcomes of imitation.

Much of QL’s transformation success has to do with human imitation of positive interactions, a code of conduct developed and embraced by students, and a foundation of positive social interactions fostered by teachers. Think about how students tend to imitate one another in negative as well as positive cultures. By giving serious consideration to this concept, teachers can analyze how their attitudes and interactions dramatically influence students.

**PSYCHOLOGICAL ASPECTS OF SOCIAL LEARNING**

Humans are genetically wired to interact with others—we have a need to belong. The need for social interaction is obvious during the school years and strongest during adolescence. Adolescence is a time of change when teenagers consider who they want to become. They study the behaviors of adults at home,
at school, in the community, and in the media. They fantasize about what their future will be and how they will be better parents and teachers than those they have to put up with now. It’s an exciting and frightening time, a joyous and angry time, a loving and rebellious time, and a time when even adolescents wonder why they do what they sometimes do. When asked and they answer with I don’t know, it’s usually because they’re just as puzzled by their behavior as are their parents and teachers.

Feeling liked by the teacher and being part of a supportive group is critical to students’ social and emotional growth. By contrast, being put down by teachers or peers can be extremely damaging. There is a tendency for adolescents to fall in love easily and when teens are rejected by the object of their affection, the feeling can be devastating. When overwhelmed by negative thoughts they may cause harm to themselves or others because consequences of such actions fail to register cognitively.

In today’s social media lifestyle, it is not unusual for angry adolescents to fight back with compromising photos on Facebook or blasphemous accusations and derogatory comments on Twitter. At such times, adolescents may experience a strong sense of confidence and bravado that feels like powerful righteous justification for what they’re doing. Surprisingly, while struggling with girl/boy, other peer, parent/student, or student/teacher relationships, intense internal turmoil may fail to reveal itself in ways that raise concern in adults because adolescents generally project a rather even keel in their day-to-day activities. Close adults may notice slight changes, but chalk them up to hormones. That’s why it’s often difficult to identify students who believe their own perceptions to the point where they seem unable to stop themselves and need compassionate but firm intervention from adults.

If teachers are empathetic rather than patronizing, students can tell the teacher likes them, cares about their learning, and still holds them accountable for appropriate behavior and greater learning when struggling with difficult relationships or concepts. Goleman emphasizes this point by noting that “many competencies are interpersonal.” He identifies them as “reading social and emotional cues, listening, being able to resist negative influences, taking others’ perspectives, and understanding what behavior is acceptable in a situation” (Goleman, 1995, p. 259).
These skills, Goleman states, are key to healthy social development. He says, “We catch feelings from one another as though they were some kind of social virus” (p. 115). Some neuroscientists tend to identify mirror neurons as responsible for this type phenomenon and they advance mirror neurons as being of great importance to educators, because if solid research evidence supports the power of their existence in humans, adult behaviors and how adults serve as models for speech, language, and interactions in children cannot be overstated.

Think about how students tend to imitate others whose goals and behaviors are consistent with their own. The role of mirror neurons seems to hold great promise in how this type of imitation occurs. This view, however, is seriously questioned (Churchland, 2014; Hickok, 2014; Pascolo, 2013; Pinker, 2014), and it will take many years to compile sufficient research evidence to support claims attributed to the power of mirror neurons. In fact, Paolo Pascolo (2013) at the University of Udine in Italy argues that, twenty years after the discovery of a specific population of neurons, the mirror neurons, the debate as to their existence is still in full swing. Thus far there is no incontrovertible proof, and the doubts of sceptics [sic] have not yet been laid to rest. (p. 27).

In a review of the literature on mirror neurons, James Kilner and Roger Lemon (2013), researchers of Motor Neuroscience and Movement Disorders at the University College of London, Institute of Neurology, found that most reports from more than 800 papers on mirror neuron experiments with human participants used neuroimaging, especially functional magnetic resonance imaging (fMRI) technology, and the vast majority “confirm a broad overlap between cortical areas active in humans during action observation and areas where mirror neurons have been reported in macaque monkeys” (p. R1060). However, Kilner and Lemon conclude that while these findings suggest “the existence of a mirror neuron system in humans,” research evidence does not yet “furnish conclusive proof” (p. R1060).

Christian Jarrett (2013), a reviewer of the Kilner and Lemon (2013) article concludes, there is
no doubt about it—mirror neurons are an exciting, intriguing discovery—but when you see them mentioned in the media, remember that most of the research on these cells has been conducted in monkeys. Remember too that there are many different types of mirror neuron. And that we’re still trying to establish for sure whether they exist in humans, and how they compare with the monkey versions. As for understanding the functional significance of these cells . . . don’t be fooled: that journey has only just begun.

In the meantime, nothing is lost by giving serious consideration to the possibility that mirror neurons exist in humans and that they are important in how students develop social and other specific skills. Therefore, teachers can analyze how their attitudes and interactions may dramatically influence students in terms of development of positive social skills, act as if mirror neurons do exist and are critically important to student development, and conduct themselves accordingly.
Chapter 2: Foundation Component

Foundation relates to an aligned community of learners who know how to interact effectively with one another.

The foundation component integrates with the social learning system. It is the context of the classroom that aligns everyone toward a common vision. Alignment is achieved through clearly defined expectations, values, and goals for teachers and students.

Foundation skills rely heavily on social interactions leading to desired outcomes—school communities where all staff and students know what is expected and how to interact with each other. Toward this end, QL fosters interactions guided by the 8 Keys of Excellence principles to live by: Integrity, Failure Leads to Success, Speak with Good Purpose, This Is It, Commitment, Ownership, Flexibility, and Balance.

Each Key is specifically taught, reinforced, and sustained from year to year as schools create meaningful change. The Keys are designed to help students develop positive character traits and a joy in learning. When learning the Keys in the classroom, students tend to support one another’s character development.
8 KEYS OF EXCELLENCE – PRINCIPLES TO LIVE BY

Living by the 8 Keys of Excellence involves developing a strong inner core of character. In essence, the Keys define who we are and what we stand for. They guide our behavior and actions. The 8 Keys involve decisions about how to live our life now, but the personal impact of the Keys lasts far into the future.

For example, five years after students participated in a QL program teaching the 8 Keys of Excellence, a survey of the students and their parents revealed long-lasting results. Ninety-eight percent of the students reported they were still using skills learned from their participation in the QL program. These findings are similar to follow-up data regarding Head Start programs. Even though students’ academic prowess leveled off around grade four in comparison to age peers who did not attend Head Start, Head Start students were more in control of themselves and their decision making as teenagers (Ludwig & Phillips, 2008).

Implementation of the 8 Keys of Excellence in school districts has also shown significant results. Larry Perondi, the superintendent of the Oceanside Unified School District (OUSD) stated in 2011, “I believe making character the number one priority in our district is crucial to our success. We must train our leadership in effective and meaningful implementation to gain the achievement levels we desire.” He did just that with positive results, not only in better student behavior, but in increased revenue as well. Following implementation of the 8 Keys of Excellence, suspensions in OUSD decreased from 2,602 in the 2011/2012 academic year to 1,314 in 2012/2013. As the amount OUSD receives from the state is $32 a day per student for average daily attendance (ADA), and the average suspension is three days, this 50 percent decrease in suspensions increased the average daily attendance and generated more than $124,000 for the Oceanside District. (See figure 3.)
Similarly, Janet Huene, principal of Dakota Elementary School, Dakota, Illinois, realized similar benefits. She remarked, “Our referrals were down each month by 45 to 55 percent and we ended the year with more than two hundred referrals less than the previous year. As a principal, I was spending less time disciplining in the principal’s office and more time with the kids reinforcing the great things we wanted them to be doing. Our students not only have been inspired to use the Keys of Excellence but to BE the Keys of Excellence.”

**Inspiration for the 8 Keys**

Inspiration for the 8 Keys of Excellence came from many sources. Napoleon Hill instilled the importance of being flexible (*Flexibility*), having a positive mental attitude (*This Is It*), going the extra mile (*Commitment*), and learning from defeat (*Failure Leads to Success*). R. Buckminster Fuller, committed his life to making the world work for 100 percent of humanity, and he modeled that commitment completely. From *Rolling Thunder*, a book by Doug Boyd (1976)
about a Native American orator, came the *Speak with Good Purpose* Key. Boyd wrote, “We don’t have to say everything we think. So we begin by watching our words and speaking with good purpose only” (p. 99). *Ownership* came from the concept of taking responsibility for one’s life. The QL definition of *Integrity* (match behavior with values) came from the geometry concept of congruence. When one shape exactly fits over another, they are congruent. They are identical in size and shape. When our behavior and our values are congruent, we’re living with integrity. *Balance* was added when we reflected on the fulfillment that balance brings to our lives.

![8 Keys of Excellence Definitions](image)

### 8 Keys of Excellence Definitions

Following are Quantum Learning's 8 Keys of Excellence with a short description of each followed by a more detailed explanation. The Keys are listed in the order they are taught over a school year. Many schools give an overview of all the Keys at the start of the school year, then focus on one Key a month.

**This Is It**

*Make the most of every moment. Focus your attention on the present moment. Keep a positive attitude.*

*This Is It* means giving each task our best effort. A *This Is It* attitude can make each day productive, fulfilling, and fun. Life is full of distractions and opportunities to do something else, something other than what we’re doing now. Instead of making what we’re doing *it*, our focus is often elsewhere—on things we wanted to do, could have done, should have done, or intend to do. Whenever our thoughts are occupied with something other than what we’re doing, we miss what’s going on around us in the moment. While we’re waiting for the next moment
to arrive, the present moment slips away. We can’t do anything about the past and the only thing we can do about the future is make tentative plans, but when we live in the NOW we have power. When we have a This Is It attitude and make the present it, we find joyful moments we would otherwise miss.

Ownership

Take responsibility for actions. Be responsible for your thoughts, feelings, words, and actions. Own the choices you make and the results that follow.

Ownership is our willingness to take responsibility for the choices we make. When we take responsibility for our choices, others know they can count on us and we earn their respect. If we tell a friend we’ll meet him at a certain time but we’re late because we didn’t want to stop what we were doing, we must take responsibility for our choice to be late. We don’t make up excuses like I couldn’t help it. I had something I needed to do. We take ownership by saying I was wrong not to meet you as planned or call when I realized I’d be late. I’m sorry. How can I make it up to you?

When we take ownership of everything we do and say and stop blaming things outside ourselves for situations that occur in our lives, we have greater control. We may not be able to control everything that happens in our lives, but we can control how we respond to what happens. By taking ownership of our actions we create a huge shift in our life. Ownership is a whole-life concept. We can take ownership of our education, our relationships, our fitness, our fun—all areas of our life. And when we take ownership we take pride and feel confident and fulfilled. We are managing ourselves and that feels good.
Speak honestly and kindly. Think before you speak. Make sure your intention is positive and your words are sincere.

Words are powerful! They have the power to uplift and enlighten or put down and depress. A few cutting words spoken in a moment of anger can affect us for a long time, perhaps even a lifetime. On the other hand, a few kind words can make a very positive difference in how we feel about ourselves. Sometimes those kind words are remembered much later in our life and bring up positive feelings. What we say to others can have a strong impact on them as well as on our relationships. What we say to ourselves can also have a strong impact—on our sense of self, our self-awareness, and our self-confidence.

Speaking with good purpose is about always considering the intention of our words. It’s about communicating directly, clearly, honestly, and with a positive purpose. The first step is awareness. If we always think before we speak instead of just blurting out whatever comes to mind, we can learn to consider the reason for our words and make sure we are speaking with good purpose. Ask will my words build someone up or put them down? We all sometimes have negative thoughts, but we don’t have to say everything we think.

There will be times when we need to share critical thoughts. At these times, if our purpose and how we phrase our words is considered first, sharing honest and direct feedback can be very positive and powerful, and will build trust. Caring feedback lets the other person know that we understand their feelings and have empathy for them. Speaking with good purpose is the cornerstone of healthy relationships. This principle fosters a positive emotional environment where people are happier, more productive, and more likely to succeed.
Learn from mistakes. View failures as feedback that provides you with information you need to learn, grow, and succeed.

When we live the Key of Failure Leads to Success we see failures as feedback—we analyze and learn from them and make the changes needed to be successful in the future.

To live this Key successfully may require a change in how we think about failure. Rather than viewing failure in a negative way where we put ourselves down and think we are a failure, think of failure as a positive learning experience. When we make an effort to learn from our mistakes rather than sending ourselves negative messages, we are on the path to success. We can then give ourselves permission to reconsider our plan of action and revise it in keeping with what we learn from the feedback.

The only real failure is not learning from our mistakes. Often we’re reluctant to try different things because we’re afraid of failing. Fear of failure does nothing but keep us in our comfort zone where we stick with the familiar, the safe choices where we don’t risk another failure. When we step out of our comfort zone, we are willing to try something new and take a step toward success.

Make your dreams happen. Take positive action. Follow your vision without wavering.

Commitment is the defining moment of making a compelling decision, jumping in, and going forward with gusto. Once a commitment is made, indecision is eliminated—there is no more Should I or shouldn’t I? Will I or won’t I? A commitment is not made lightly—it’s about making a decision so strong there is no going back, like a skydiver who has jumped from a plane!
The decisive act of making a commitment is when we choose to overcome all obstacles and reach for a goal. This sets in motion an energy field of events that propel us forward on our path. Our brain is programmed to live up to the commitment. Obstacles are eventually overcome and our commitment pushes us on until we reach our goal.

**Integrity**

*Match behaviors with values. Demonstrate your positive personal values in all you do and say. Be sincere and real.*

Living in integrity means that everything we say and do are true reflections of what we value, what’s important to us. We think about what our behavior says about who we are. Does it clearly show others what we value? Do we show up as honest and committed, or dishonest and indifferent? Are we spending our time with people we value, people whose worldviews are positive and energizing? Are we participating in activities we enjoy that help us grow?

When we live the Key of Integrity we are sincere and true to ourselves—we don’t say or think one thing and do another. People trust and respect us, our relationships are solid, and we feel good about ourselves. Those positive feelings from others and within ourselves reinforce our values and build our reputation and self-efficacy, leading us to greater success in all areas of our lives.

**Flexibility**

*Be willing to do things differently. Recognize what’s not working and be willing to change what you’re doing to achieve your goal.*

*Flexibility* relates to our willingness to try another way when something we’re doing isn’t working. We’re often faced with situations that are different from what
we had originally planned. One way to deal with these situations is to be rigid and continue to do things in the same way over and over. Another is to handle them with flexibility. Being flexible is responding to changing situations in ways that move us forward. It often requires critical thinking skills of analysis and reasoning, which are essential for developing multiple ways of solving problems.

Flexibility is about not getting locked into one way of doing something. If we’re trying to achieve something and it’s not working, we can try another way. Living the Key of Flexibility is about recognizing all kinds of habits, patterns, or activities in our lives that aren’t working and then changing them, and even changing them again until we find something that works.

Balance

*Live your best life. Be mindful of self and others while focusing on what’s meaningful and important in your life. Inner happiness and fulfillment come when your mind, body, and spirit are nurtured by the choices you make.*

When we live the Key of Balance, we make time for the things we value—those things that are important to us. Staying in balance is an ongoing process about choices.

When questions arise about how we spend our time, we make choices depending on what’s important in the moment. We may choose to give up time with friends to finish a project for work or school, or we may choose to put aside something we’re doing to help a friend. Many of the choices we make every day—choices about school, work, hobbies, sports, family, friends, health, etc.—are about balance.
The *Balance* Key is not about rigidly devoting equal time to everything that matters to us. Balance is about considering what’s most meaningful and important when we make choices about how we spend our time and energy. When we find the right balance we are happy, healthy, productive, and fulfilled.

Following are alternative definitions for the Keys that can be used for K–2 students or as a short form for people of all ages.

**Figure 4: 8 Keys of Excellence Alternative Definitions**

<table>
<thead>
<tr>
<th>Key</th>
<th>Definition</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>This Is It!</td>
<td>Pay attention</td>
<td>Keep a good attitude and use your time wisely.</td>
</tr>
<tr>
<td>Ownership</td>
<td>Take responsibility for what you say and do</td>
<td>Tell the truth and don’t blame others.</td>
</tr>
<tr>
<td>Speak with Good Purpose</td>
<td>Think before you speak</td>
<td>Make sure your words help others, not hurt them.</td>
</tr>
<tr>
<td>Commitment</td>
<td>Make it happen</td>
<td>Take action—don’t give up.</td>
</tr>
<tr>
<td>Failure Leads to Success</td>
<td>Learn from mistakes</td>
<td>It’s okay to make a mistake if you learn something.</td>
</tr>
<tr>
<td>Integrity</td>
<td>Do what’s right</td>
<td>Do the right thing no matter what.</td>
</tr>
<tr>
<td>Flexibility</td>
<td>Be willing to do things differently</td>
<td>You don’t always get what you want—be open for something different.</td>
</tr>
<tr>
<td>Balance</td>
<td>Focus on what’s important</td>
<td>Do things that help your growing brain, healthy body, and happy heart.</td>
</tr>
</tbody>
</table>

**THE IMPORTANCE OF CHARACTER IN SOCIAL LEARNING**

Character is often written and spoken about as if everyone has a common definition and understanding of the term, but that may be an incorrect assumption. Character is a term that helps define the distinctive nature of a person, such as their consistent ways of behaving, thinking, being, and interacting. Some might say that one’s character establishes their reputation—good or bad. The 8 Keys
of Excellence serve as guiding principles for how to conduct oneself in all areas of life. The 8 Keys are life skills that truly do result in a strong character that lasts a lifetime.

Qualities such as the 8 Keys are sometimes called noncognitive skills, but they take thought and purposeful decision making to internalize. For his book, *The Millionaire Mind*, Thomas Stanley (2001) polled 5,000 millionaires and listed the following character traits, soft skills, or noncognitive skills as crucial to their success: integrity (being honest), self-discipline/self-control, social skills (communication and getting along), and hard work (perseverance, not giving up). These seem to parallel the Keys of Integrity, Ownership, Speak with Good Purpose, Commitment, and Failure Leads to Success respectively.

The 8 Keys of Excellence develop positive character traits. Without question, however, various opinions exist on the impact of character instruction. In October of 2010, *Education Week* published a lead story titled “Character Education Found to Fall Short in Federal Study” (Sparks, 2010). The author reviewed results of the U. S. Department of Education’s Institute of Education Sciences (IES) evaluation of the effectiveness of seven schoolwide character programs implemented across the country. Eighty-four schools in six states were investigated involving more than 6,000 students from their entrance into grade three until they completed grade five. Twenty indicators of program effectiveness in terms of social and emotional competence, academics, behavior, and school climate were analyzed at the end of grades three, four, and five for students overall and by gender, risk level, length of time in the study, and fidelity to the chosen program. All results were compared to control students who received some character education in their regular classes. It was not specified if control students were from the same or different schools.

The findings were reported as follows:

The programs improved teachers’ sense that students supported them during the first two years of the study, but this effect fell off by the third year. Aside from that, the individual programs showed a mixed bag of results among the 20 indicators that shifted from good to bad from year to year, and none proved significant in the
overall findings. In the end, researchers found no evidence that the programs, taken individually or together, improved students’ behavior, academic performance or gains, or their perceptions of the school climate. And the results were no better for schools with better implementation. (Sparks, 2010, p. 2)

By contrast, Brian Flay, professor of Health and Human Sciences at Oregon State University and participant in implementation of one of the programs, tracked participating students through grade eight. He found that bullying and substance abuse were lower among those who stayed in the program, presumably versus those who did not. “In these inner-city, high-risk, high-poverty neighborhoods,” he concluded, “it takes a while for the effects to become significant” (in Sparks, 2010, p. 3). Further, character education in the absence of rigorous academic challenges such as development of critical thinking skills, is not the full picture of what is required to be a successful person.

In support of character education, Linda McKay, advisor for the Education Department’s character education grant program and co-author of Character Education Connections: For School, Home and Community, said that “for character education to be effective, it really has to be a schoolwide process, a total school framework based on faculty, students, and parents” (in Sparks, 2010, p. 2).

Regarding the importance of character in relation to achievement, Paul Tough (2012), author of How Children Succeed: Grit, Curiosity, and the Hidden Power of Character, attempts to replace the importance placed on intelligence with a character hypothesis. He writes,

> What matters most in a child’s development . . . is not how much information we can stuff into her brain in the first few years. What matters, instead, is whether we are able to help her develop a very different set of qualities, a list that includes persistence, self-control, curiosity, conscientiousness, grit, and self-confidence. (p. xv)

Tough (2012) states that psychologists are finding these noncognitive skills are more crucial than sheer brainpower to achieving success. Tough further states
that character develops as a result of encountering and overcoming failure. He compares American children reared at both ends of the socioeconomic spectrum and determines that those at the high end miss out on character-building experiences because they encounter limited pain resulting from personal failure. Those at the low end, by contrast, have more challenges than they can handle and little or no support. Tough believes that children at these two extremes have difficulty developing strong character traits.

Ed DeRoche, (2013), director of the Character Development Center at the University of San Diego, ponders this question on his blog.

We require, push, demand, cajole our children to learn the basic skills of reading, writing, and computing. But what is more basic than nurturing them to be caring, civil, responsible, respectful human beings who know and practice the “Golden Rule”? (n.p.)

**Measuring Character**

Unless character traits can be measured, how do we know if the 8 Keys of Excellence or another program actually fosters character development? Without question, objective measures provide evidence. Such evidence includes fewer school days missed, fewer disciplinary actions needed, increased academic achievement, more homework completion, more on-task time during class, fewer negative and more positive interpersonal comments, higher rate of bringing needed materials and supplies to class, and an increase in spontaneous student behaviors toward classroom orderliness.

In their literature review regarding the role of noncognitive factors in shaping school performance in adolescents, Farrington et al. (2012) conclude that noncognitive factors must be visible in some way because “virtually all other noncognitive factors work through academic behaviors to affect performance” (p. 8). They conclude that other factors (academic perseverance, academic mindsets [positive or negative], learning strategies, and social skills) play their unique roles, but the final result must be measured in terms of academic behaviors and performance as listed in the previous paragraph. The question remains, however—which character traits produce the desired academic behaviors?
Kipp charter schools in New York have received considerable attention for implementing a character report card for measuring self-control, optimism, grit, gratitude, zest, curiosity, and social intelligence (Tough, 2012). Each characteristic has from two to five action-oriented descriptors for clarification. For example, actively participates and invigorates others positively are descriptors for zest. Students and teachers give a score from one to five for each descriptor, then the teacher and student discuss the scores and what the student can do to improve in weak areas. The score cards are discussed in parent/student/teacher conferences, and that’s where Tough believes the value of report cards lies and not in the actual scores.

Larry Ferlazzo (2011), a high school social studies and English teacher in Sacramento, California, and author of several education books for teachers, writes against using character report cards. He thinks that character scores are equivalent to a short-term reward rather than about student progress toward self-awareness and personal growth, and that short-term rewards lead to the score being more important than what is being scored. Ferlazzo, opts for strengthening an intrinsic desire to learn by developing an “appetite for challenges, and capacity to be resilient.”

A compromise position between grading and not grading character is to use student self-evaluations followed by discussion of evidence to support the student scores. This is exactly what Superintendent Randy Watson and his colleagues do in the McPherson, Kansas, Public School District. In conjunction with Quantum Learning staff, they developed an 8 Keys of Excellence Growth Gauge at three different levels: primary grades pre-kindergarten through grade two (ages 4 to 8 years), elementary grades three through five (ages 8 to 11 years), and middle school and high school (ages 11 to 18 years). Downloadable 8 Keys Growth Gauges are available at QLSystemResources.com.

Just as Brian Flay (2014) found regarding federally supported character programs, Watson found that for some students the transition from negative to positive behaviors takes concerted effort across classes and more than one school year. Therefore, Watson’s school district implements the 8 Keys philosophy from primary through high school. He finds that doing so makes the greatest difference for low-academic-achieving students; reduces truancy, delinquency,
expulsion, and suspension rates; and improves school attendance, school participation, and academic achievement. Even more important, implementation at all grade levels provides greater assurance that students will develop the character traits necessary for lifetime success because they live the 8 Keys throughout their school lives.

In another study regarding student character traits, Samuel Casey Carter (2011) and his colleagues examined 3,500 schools identified for specific strengths and whittled them down to 350 schools known for their high-performing students and reputation for cultivating strong personal character. From these 350 schools, Carter’s team selected twelve to profile.

In his book, *On Purpose: How Great School Cultures Form Strong Character*, Carter’s team conducted extended observations of the twelve selected schools and found four traits in common even though the traits may or may not have been immediately obvious.

First, the leadership of each school has a “strong belief that culture determines outcomes” (p. 8). This is also a strong belief of Quantum Learning. That’s why we begin our discussion of QL with the establishment of culture through principles to live by—the 8 Keys of Excellence.

Second, the culture is both nurturing and demanding. Again, this mirrors Quantum Learning. Specific instruction on teaching students how to think critically and how to learn effectively are linchpins of QL’s success.

Third, a strong commitment to student success is pervasive throughout the schools. This trait has been the focus of QL during its 30-plus years of facilitating student achievement.

Fourth, each of the twelve cultures places high value on people, principles, and purpose. As readers can tell by how we describe Quantum Learning, the culture of classrooms and schools is highly valued and essential for strong academic achievement across the grades.

Let’s take another look at the first sentence of the critical *Education Week* article discussed earlier regarding a federal study of seven schoolwide character programs where Sparks (2010, p. 2) wrote that “The programs improved teachers’
sense that students supported them . . .” This suggests that the programs were more about obtaining compliance than about guiding students to take charge of themselves and their learning.

That may be why Quantum Learning’s 8 Keys of Excellence program is successful and many other programs miss the mark. The 8 Keys (1) help students realize what is important to them, (2) help students build a strong internal core that guides them into becoming who they are, and (3) empower students to take charge of themselves and their behaviors. The 8 Keys teach students to be responsible for the choices they make. They are a central element of Quantum Learning System’s first component, foundation.

**Building a Community of Learners**

With the Keys as the *modus operandi* for the class, other elements of the foundation component can be established with success. These focus on making collective decisions for how the class will operate. The 8 Keys foster cooperative decision making as students work together to effectively transform groups of individuals into highly functional learning communities.

To build a community focused on learning, we align purpose, vision, values, beliefs, intentions, and expectations regarding how we function together. The most effective way to build a collective classroom social order or system is to involve students in its creation. The teacher holds the *power of veto* and ensures that what is decided supports the positive foundation of the classroom while remembering that a classroom belongs to students as much as it does to the teacher. This fact is demonstrated when students play a large role in determining how the class operates.

In the past, teachers were responsible for almost all decisions regarding class operations and student projects. This is rapidly changing, as articulated by Rob Hutchinson, chair of an international initiative for involvement of youth in community decision making. He says,

> True youth engagement requires a fundamental shift. Young people must have an authentic voice in the design,
development and day-to-day functions of activities. It is impossible to overstate the importance of this shift from adult-directed to youth-owned.

The best way for adults to engage young people is to ask for their views, opinions and direction—and to listen carefully to their answers. Young people recognize the difference between token participation and authentic engagement. Roles that may seem subtle to adults are often very clear to youth. (Center for the Study of Social Policy staff, 2007, p. 10)

Hutchinson goes on to say “it is no longer a question of whether we involve young people in matters that concern them but how we do it most effectively. Young people will probably have the answer to this question as well” (p. 10).

Teacher and students working together to reach consensus on behaviors paves the way for consensus on more abstract goal-setting concepts such as deciding the class purpose (why we exist) and vision (our desired future). Unless students know how to collaborate, developing a collective mental image of what they want the class to look like may be exceedingly difficult. Perhaps that’s why most teachers never attempt to have students create a vision of what they expect from a specific class.

In a study conducted by researchers at the Child Development Center in Oakland, California, upper elementary students from two dozen schools across the country were asked the extent to which their classroom and school were supportive communities (Battistich et al., 1995). Alfie Kohn (1996) found that the stronger the community feeling, the more students liked school and they saw learning as something valuable in its own right. These students also tended to be more concerned about others and more skilled at resolving conflict than those who didn’t feel part of a community. What’s more, these positive effects were particularly pronounced in schools that had more low-income students. (Kohn, 1996, p. 103)
“A cornerstone of our democratic society is citizen participation. Informed and responsible decision making is therefore a critical skill for students to learn. Schools are one place where students can have early and formal experience in responsible participation” (Metzler, n.d.). Therefore, social learning is fundamental to creating classrooms that foster collaborative decision making.

Class Decision Making

With the 8 Keys of Excellence as the basis of how we operate together, we move to creating standards for the classroom. To get student buy-in, we involve them in the decision-making process of creating the vision and purpose for the class. Teacher/student decision making at the beginning of a new school year is important for several reasons:

- The decision-making process helps students get acquainted through participation in an authentic, academic task. Each student brings to the process an experiential history of how classes operate and discussion encourages students to share their points of view.

- Small-group decision making allows all students to participate. Reliance on small-group interaction and volunteer sharing allows hesitant students the safety to share with a few students, while giving those with more confidence opportunities to model active participation.

- Collaborative decision-making skills can be useful in many areas of students’ lives.

- Class decision making reinforces district and school rules and regulations by reviewing and clarifying them prior to making decisions on how the class will operate.

- When students are responsible for establishing their own classroom operational procedures and agreements, they are more apt to take ownership of them.

  Accepting someone else’s expectations is a far cry from developing one’s own. Doing something out of a sense of compulsion isn’t at all the same thing as doing it because one knows and feels that it is the right thing to do. The
ultimate reason to give children a say is that it can help them to make their own good decisions, to grow into ethical and compassionate people—not because it will make them internalize what we want them to do. (Kohn, 1996, p. 83) . . . Anyone who truly values democratic ideals would presumably want to maximize children’s experiences with choice and negotiation. (Kohn, 1996, p. 85)

Perhaps the most important in terms of building community is that student decision making immediately establishes guidelines for how the class will move forward as a socially conscious learning community.

Decision making requires application of critical thinking skills. At the beginning of a semester, however, our primary focus is on the decisions rather than the process. Although secondary to the primary focus of determining how the class will operate for the semester, decision-making skills are taught through modeling and guidance during the process. The decisions inform the learning community about how the class will function. Therefore, the teacher models the decision-making process and refers back to it when expressly teaching decision making later in the semester.

Decisions should lead to some meaningful outcome. That’s why in Quantum Learning we begin the semester with decisions that will impact students’ lives. These have to do with agreements and procedures students will follow as well as clarification of responsibilities that all involved parties agree to assume.

**Class Procedures and Agreements**

In QL classrooms, students work with the teacher to determine how the class will operate. Procedures let everyone know what to expect and what action to take. Procedures include whether or not class meetings will be held and, if so, how often; how class members line up (or not) for exiting; where to place homework; where to pick up personal folders (if they are used); where to return them with completed work; how the first several minutes are used for roll call, review of previous work, and announcements. Procedures create routine that provides a sense of stability, control and structure, and makes it possible to start and end class on time.
In developing class agreements, students define what everyone views as the ideal outcome for being together. They consider what they want their class to look like and feel like and create informal agreements to make that happen. For example, students may agree to listen quietly and attentively when another student is talking. Such agreements build respect among students and lead to a cohesive, productive classroom.

Because agreements are determined by the class, all class members have a responsibility to see that the agreements are upheld. Specific to QL is an agreement to personally practice the 8 Keys of Excellence, to acknowledge others for living a Key, and to hold oneself and others accountable when a Key is violated. A simple hand signal or a question such as What Key is challenging you right now? encourage students to conduct a quick self-assessment and correct the behavior. Even if the teacher unintentionally violates a Key and no one points it out, he can say something like I just violated a Key and no one called me on it. What could you have done to make me aware of it in the moment? This action reinforces the fact that the class operates on democratic principles with a leader who sometimes needs to be reminded of the classroom agreements.

Student discussion and input on classroom agreements help instill student ownership. In a San Diego classroom, members of a fourth-grade class proudly shared with a visitor a poster they had created of their class agreements and all the actions they promised to uphold. The teacher said it was rare for students to break an agreement, and that when they did they were quick to acknowledge their mistake, self-correct, and apologize. The teacher felt this was a direct result of the students having worked together to create the agreements.

In creating agreements and procedures, students derive additional benefits as a result of the class decision-making process. They

- learn how to work collaboratively in a group,
- learn how to make decisions that impact the group,
- gain clarity regarding how the class will operate,
- take ownership of the agreements and procedures, and
- practice living the 8 Keys of Excellence in the process of creating a socially viable learning community.
School and district policies and procedures also affect the classroom procedures. At the beginning of the semester or year, it’s important to make sure all students are aware of them and agree to follow them. Classroom procedures and agreements need to be aligned with those of the wider education arena.

In addition, school handbooks usually state what students are to do if tardy or absent, how to sign in for the day electronically if student swipe cards are used, what to do if a student needs to be in the hall during class time, how to arrange to stay late for after-school activities, how to get help with homework, what to do if feeling ill, and other information that lets students know what to do in various situations.

**Shared Purpose and Vision**

Generally speaking, the purpose of primary and secondary education is to prepare students for adulthood as productive participants in higher education, vocational training, career, and life. Each teacher along the way has the specific obligation to prepare students to be proficient in the skill or subject being taught. Teachers can play a part in helping students understand who they are as individuals and as members of a community of learners. That’s why QL teachers help students clarify their personal values, beliefs, and intentions as well as those that relate to their classroom community. That’s also why creating a shared purpose and vision for the class is foundational to the concept of community and its social expectations.

The definitions of class purpose and vision often overlap. In Quantum Learning, we hold purpose as the *why*—the why of our education. We hold vision as the *where*—where we are going and what it will look like when we get there. In other words, our vision is the accomplishment of our purpose.

In addition to the larger purpose of education of preparing students for success in college and career, the teacher usually sets the purpose based on her responsibilities for what students are expected to know and be able to do by the conclusion of a particular semester. When the teacher shares the required standards with the class and builds their enthusiasm, the teacher and students become one coalesced team working to achieve the standards together. Meeting or
exceeding the standards becomes part of a shared purpose—the reason students and teacher are together in this classroom.

The teacher’s primary purpose, though often unspoken, is to make learning joyous and meaningful, to connect with and engage students, and to inspire them to accept learning challenges. It is powerful for the teacher to share this purpose with the class to keep students focused on where they are headed. Beyond academic accomplishments, teachers need to prepare students to be life ready.

The purpose of the class may be to create a community of learners where all students take pride in their accomplishments and enjoy the learning process, but what do these desired results look like? Visualizing the end result and articulating the mental images is the class vision.

The teacher might say, Imagine yourself at the end of this semester with your portfolio of accomplishments and visualize how proud you will feel when you show them to your family. Think about what you did to create such a magnificent body of work. See yourself at home eagerly working on some project or class assignment. In this class you will learn as much as you can about ________ (whatever the subject is). Consider what you now know and what you want to learn. See yourself learning it. Imagine the smile on your face when you think about how much your learning has improved.

This type of visualization helps create a shared vision that everyone will be successful and that we are all going to support each other and succeed. Visualizing lets students know that no matter what, their teacher will do her best to make certain each student is successful. In addition, students are going to do their best to be successful. That’s why crafting the visualization needs to be specific to the subject, the age of the students, and what is to be accomplished. The mind tries hard to make the intentions of the visualization a reality, so it’s a good idea to remind students of the vision of success throughout the semester.

Without a vision of what is possible, the concept of purpose remains abstract and fails to elicit student ownership of the class. Shared purpose builds ownership for accomplishing something together. That something must be clear in each student’s mind so mental images of self and others accomplishing specific tasks can become realities. When each student sees the shared purpose clearly in the
mind’s eye, then they all know what success looks like, thus making it easier to attain. To create this reality, however, each student and the teacher must hold a strong intention to make it happen.

**Intention**

Intention relates to deciding to do or create something, or to gain a particular result for yourself or others. It is a desire to make a goal a reality and holding the thought that it will happen. Intention requires forethought. *My intention is to smile and laugh more. His intention is to create a love of literature in his students.* Intention is like shooting an arrow at a target. It requires aiming toward a goal and self-determined action. It is important for teachers to remember that intention is conveyed through subtle voice tone and expression, as well as through facial expressions and body language. Students perceive an adult’s intention from nonverbal clues faster and more accurately than anything they hear. The power of intention is why we suggest imagining a 10 or a gold star on each student’s forehead. The image reminds us of our intention to interact with each student as if he or she were a highly capable, engaged learner. The brain finds unfinished business quite unsettling, so when we hold an intention for something to happen it strives to create closure—the brain works hard to turn the intention into reality. Intentions are strengthened when they are aligned with expectations.

**Expectation**

Expectation relates to holding something as being probable. To expect is to predict an outcome—we anticipate, presume, or suppose that something will transpire. *As certain students excelled last year, I expect them to do well in my class. Similarly, as some students did poorly last year, I expect them to do poorly in my class.*

As teachers, we want or intend for all our students to excel. If we expect, however, that some will not excel, then our expectations will prove to be much stronger in terms of producing a reality than what we want or intend to happen. When what we intend to happen and what we expect are at odds, the expectation generally wins the battle. Conversely, when what we want and what we expect are congruent, we send numerous and consistent verbal and nonverbal messages to
students that we believe in them and know they will develop a keen interest in, and perhaps a love of, poetry—we know they will be successful. That’s because the mind and body do all that’s possible to create a reality consistent with what we truly expect—especially when it is consistent with what we intend to happen. As teachers, we need to hold high expectations for each student, then make tasks reasonably challenging and expect their reach to exceed their grasp.

Values

Values relate to what is most important in our lives. In some cases, we would go to extreme lengths to protect what we value, whether it is a person, belief, concept, or something material. When teaching students about values, we point out that they must be viewed with a sense of integrity. For example, we do not rob a bank because we value money—we work to earn the money.

The truth is, “we assign—often nonconsciously—a positive, negative, or neutral value to all incoming information, depending on whether it is need-satisfying to us at that moment” (Sullo, 2007, p. 11). Thus, the value we place on something may be transitory, even if deeply felt for a short time. Wait a day or two and the transitory value placed on a possession is usually replaced with reason and logic. When students are asked what they value, they will often include material items that are likely to be transitory.

When asked what’s really important to them over time, they generally say their family and friends. After some discussion about why family and friends are valued, the teacher may ask in what ways they let their family members and friends know they are valued. Sharing your values through the actions you take is what Thomas Lickona (1991), a leader in character education, calls values in action.

Teachers may ask each student to make a list of at least five things they most value in terms of school and learning. Then, in groups of three, students share their lists and negotiate to compile a common list of three to five things that all three classmates value. Once the lists are complete, students join another trio and, in the new group of six, compare their lists and decide on three to five things that all members value. As a whole class the lists can be compared, items discussed, opinions justified, and decisions made regarding the three to five
items the entire class agrees are of high enough value that they would willingly
take action to live those values. Then the class or smaller groups can discuss
ways to demonstrate their values.

Having a list of shared values sets the groundwork for knowing what peers expect.
Lickona (1991) says that values in action create character and that self-esteem
is a feeling or attitude that occurs by believing you are following the values of a
given community or valued group (in Elias et al., 1997, p. 32). Lickona explains
that shared values of a learning community are like the conscience of the class
as a whole—that is, the character of the class. Discussions about the purpose
of the class and a vision of what students and the teacher want to see at the
end of the semester can add strength to a sense of community and of belonging
to a group that shares the same values. A major outcome of identifying what
is valued is that students begin to formulate positive beliefs about themselves.

Beliefs

Beliefs relate to what we hold as true whether there is concrete evidence to
support the belief or not. For example, most religions believe in a supreme being,
yet evidence and descriptions of this higher power differ. QL believes that all
students can learn, that all students can behave appropriately, and that all
students can build strong character.

It’s astonishing how one’s childhood culture can instill beliefs that go unques-
tioned as our cultural schema—they are accepted as fact. Often unrecognized
beliefs dictate human behaviors as a result of specific ways of thinking and
behaving when young. This statement could be read without much thought if
it weren’t so important. Stop for a moment and think back to your childhood
and the things you grew up believing because significant individuals in your
life practiced them through word or deed. We’re not talking about Santa Claus
and the tooth fairy, but the perceptions you got from your family about things
like people whose skin color or language differed from your own, about going
to college, appropriate jobs, the role of women in various occupations, family
values, acceptable behavior—all these things and thousands more result from
one’s rearing within a cultural schema.
Beliefs based on religion, abstract concepts, prejudices or stereotypes are often difficult to disprove, and are less amenable to new insights than more concrete beliefs. Besides, it takes “intellectual courage” to challenge our beliefs, to think critically about what we believe (Paul & Elder, 2002). It is far easier to continue believing what we believe. When discussing values in our classrooms, we note that people have the right to believe and value whatever makes sense to them, and we do not discuss values related to religion or politics. If a student wishes to include such values in a discussion, that’s fine, but the teacher does not suggest or comment on such values.

**Figure 5: Three Essential Quantum Learning Beliefs**

<table>
<thead>
<tr>
<th>Belief</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>All students can learn.</td>
<td>Educators throughout each school believe that with effective teaching and learning strategies all students can master the content appropriate to the essential curriculum.</td>
</tr>
<tr>
<td>All students can behave properly.</td>
<td>Appropriate behavior is expected of all students regardless of their background and personality.</td>
</tr>
<tr>
<td>All students can build strong character.</td>
<td>Strong character can be learned regardless of previous experiences and current attitude.</td>
</tr>
</tbody>
</table>

As teachers we need to think deeply regarding what we believe about students, about how students learn, about what kind of teachers we are, and about why we became teachers. If we choose not to do this, negative beliefs tend to show themselves when the day is long, a fall cold is flooding the respiratory system, and the whole class seems focused on sabotaging every lesson. That’s when true beliefs about learners, how they learn, and confidence in one’s teaching skills reach the surface. That’s when cultural memes of nurturing, acceptance, behaving and interacting come into play. It is when beliefs about who we are as teachers float to the surface.
Beliefs about the self are manifested in self-talk as A. R. Luria (1961), the great Russian neuropsychologist discussed in his book, *The Role of Speech in the Regulation of Normal and Abnormal Behavior*. Luria wrote eloquently about how our self-talk can make the difference between mental health and mental illness. Without question, teacher self-talk is rooted in beliefs about one’s capabilities, knowledge, and interactions, as well as what we believe about students, how they learn, and how they should be taught.

Undeniably, beliefs influence actions and behaviors. Some scientists claim that positive, affirming beliefs create an aura around people that physicists can measure (Korotkov & Bordes, 2013). Apparently, a positive aura makes others feel comfortable and nurtured—they want to be in the company of those who are positive. By contrast, negative, self-deprecating beliefs of discontent cause one’s aura to be close to the body causing others to move away. If we see or feel students or adults as moving away from us, it is past time for an attitude adjustment regarding what we believe about ourselves and others.
The Quantum Learning System
Programs and Resources

Educator Programs
Quantum Learning programs for teachers and administrators focus on culture and cognition, creating a district/school-wide environment that supports positive interactions and effective learning. In QL’s Excellence in Teaching professional development programs, educators discover what neuroscience reveals about conceptual understanding and the impact of social-emotional factors on learning. They gain a clear understanding of the Quantum Learning System and practice applying what they’ve learned in a supportive environment. Facilitators model QL methodology as they train, leading to clarity and effective long-term implementation.

Student Programs
For students to succeed in school and life, they need to possess academic competence and strength of character. No matter what their level, Quantum Learning’s highly focused methods increase grades, boost confidence, and drive motivation for academic and personal achievement. QL’s student programs and curriculum—Excellence in Learning, Student Success Summit, SuperCamp, 8 Keys of Excellence and Student Success Series—empower students for success in college and career. Workshops for parents promote home reinforcement of the 8 Keys of Excellence, communication, learning strategies and more.

Resources
QuantumLearning.com/Resources
• QL Teaching Cycle Design Guide
• 8 Keys of Excellence Growth Gauge
• Quantum Learning Music to Enhance Focus, Memory, and Retention
• QL Self-Assessment
• QL Research, Studies, and Observations

Quantum Learning Network
1938 Avenida del Oro, Oceanside, CA 92056 | QLN.com | 760.722.0072
“I believe the concepts included in this book are critical for both the academic and personal success of our youth today.”

Jack Canfield
Co-author, *Chicken Soup for the Soul* series
and *The Success Principles*

“Educators will benefit from reading this and students of all ages will reap the rewards! *Excellence in Teaching and Learning* makes a difference.”

Stedman Graham
Author, *Identity: Your Passport to Success*

“Barb Given and Bobbi DePorter take a deep, holistic approach to the hows and whys of teaching and learning in our classrooms today. The timing of this book couldn't be better.”

Daniel A. Domenech
Executive Director, AASA
The School Superintendents Association

“As a superintendent of a large urban school district, I saw the results that the Quantum Learning System brought to the classroom and community. I believe this is a must-read for all educators looking to make a breakthrough in their teaching and learning skills.”

Larry Perondi
Superintendent, Retired, Oceanside USD, CA

“Quantum Learning has had a lasting impact on my career as an educator and as a supervisor. QL reenergized my approach to establishing classroom culture, planning and delivering instruction.”

Lauren Marrocco
2013 New Jersey State Teacher of the Year