



## Quantum Learning Case Study

### *A Summary of Studies on Quantum Learning: 1991-2012*

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The following chart includes the year, author of the study, study title, methods used, conclusions and brief summary of the study findings, of studies reviewed in this research paper.

Year	Author(s)	Study Title	Method(s) used	Conclusion
1991	Jeanette Vos-Groenendal, PhD.	Doctoral Dissertation, Northern Arizona University	Evaluation of accelerated/integrative learning program, mind-brain research with 6,042 students aged 12-22 using existing data, surveys and expert interviews.	Ten days of instruction led to 68% increased motivation, 73% improved grades, 81% developed more confidence and 84% increased self-esteem.
1994-6	Peter Anderson	Model of Educational Reform Through Quantum Learning Methodology: A Case Study, Northwood Middle School, Woodstock, IL	School wide rapport-building, teamwork and learning-to learn skills focused. Students focused on effective reading, memory, note taking and test preparation skills.	After Quantum Learning, learning challenged 8 <sup>th</sup> graders received the best GPA average ever, 17 A's out of 18 students.
1997	Jean Kerr	Quantum Learning Accelerated Learning Program (Title 1) Grossmont Union High School District, La Mesa, CA	Created 10 day program for underachieving incoming 9 <sup>th</sup> graders, used accelerated learning techniques to increase academic achievement by giving students tools for learning	Changed attitudes, shifted behaviors and 63% earned GPA of 2.0 or higher in first semester. Winner, California Golden Bell Award
1998	Sara Singer-Nourie	Field-Based Masters Program, St. Xavier University and IRI/Skylight,	Pre and post evaluation of English, Speech and Algebra on below average 9 <sup>th</sup> graders in Thornton Township H.S., So.	68% reported better attendance, 66% report better behavior, 60% follow class rules more and 68% report enjoying

		Chicago, IL	Holland, IL 60 teachers and 600 students involved over 22 days.	learning more
1998	Heather Nolan, Elizabeth Farrall	Quantum Learning: A Classroom Example, presented at EERA Spring Conference	8 <sup>th</sup> grade social studies students and teacher using QL in suburban Colorado school measured influence of QL on instructional variables.	Strong ratings and positive perceptions of QL environment for learning. Classroom environment promoted independent thinking, problem solving and creativity
2000	Howard Stone	Quantum Learning: A Journey Into Learning Action Research; Waterloo Region School District, ON, Canada	28 schools collected data over five years in Waterloo and Ottawa-Carleton Roman Catholic School Districts. 37 reports detailing changes in performance, including students with learning disorders.	After Quantum Learning, 98% of at-risk children have been successful in achieving average or above average success in literacy acquisition skills and no longer in need of special education.
2001	Bonnie Drolet	Quantum Learning for Students Encinitas School District, Encinitas, CA	Teacher survey at 4 schools, gathered by Asst. Superintendent, gathered perceptions of student improvement one month after QL program	Students test taking skills increased 35%. Ability to memorize dates, names, facts, etc. also significantly increased.
2002	Barbara Given, PhD	Quantum Learning Classroom Management-Action Research	Surveys on teacher's perception of student improvement taken various weeks after the QLN program, George Mason University	Independent researcher compilation of teacher journal entries on classroom management shows that QL made an impact as measured by higher self-concept, engagement, and retention scores.
2002	Lisa Barlas, Ann Campbell, Heidi Weeks	How Quantum Teaching Strategies Affect Learners, Westfield	Surveyed parents, teachers and students for attitude and confidence levels. Compared test scores in	Brain based strategies work in the classroom for students, parents and teachers. Also, 17% more

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		Community School, Algonquin, IL	math and social science for 7 <sup>th</sup> and 8 <sup>th</sup> graders and LD students.	LD students with QL met state standards on Math ISAT.
2003	William Benn	New Evaluation Study of Quantum Learning's Impact on Achievement in Multiple Settings	Compared schools with QL vs. schools without QL and proved statistical significance in grades 2-8 and 9-11.	Positive impact on student achievement in 18 schools in 4 states. Both statistically significant and educationally significant in reading, math, writing and achievement tests
2003	Lucretia D. Peebles, Karen DeSchryver	Quantum Learning Evaluation, University of Denver, CO.	External evaluation from 296 teachers and 9 principals reporting from 11 schools on their level of implementation of QL strategies and satisfaction	63% of participants rated effectiveness of presentation a 10/10.
2005	Kelli Myers, Pam Pedigo Ellie Terrell	Report on Quantum Learning Impact in Three Third Grade Classes At Buena Vista Enhanced Option Elementary School, Nashville, TN	Evaluation of Reading Assessments, Math Inventory and Attendance measured.	Reading grew 7.4 levels, 90% grew more than one academic year. Math scores: 100% of students scored at master level at year end. Top scoring third grade in school district (Metro Nashville, TN)
2007	Jennabeth Bogard	Quantum Learning within a School District, Cypress-Fairbanks Independent School District, Houston, TX	Initially, underperforming 4 <sup>th</sup> graders learned test taking and math skills on Saturdays, QL programs later extended to middle, high school and district-wide; teachers then became QL trainers.	80% of first group passed the test. Over three years, several thousand students were trained and excelled far beyond students who were not trained, based on Texas Assessment of Knowledge and Skills (TAKS), a standardized test statewide.
2007	Matt Christopher	Chemistry Teacher used in 2006-7, Poway Unified School District	Pre-QL to Post-QL reporting on grade distribution and student motivation in high school Chemistry 1-2	Student grades went up in A-B range and fewer were in the D-F range. % of students with an a-C grade was 74.84 (pre) and 82.56 (post)

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2008	Lauren Hinton, Glenn Simpson and Denicia Smith	Increasing Self-efficacy Beliefs in Middle School Students Using Quantum Learning Techniques, Troup County ISD, GA	Two rural middle schools were compared, one with QL and one without. Did QL training improve the self-efficacy and therefore benefit them in greater academic achievement?	QL techniques created an environment that measurably improved self-efficacy of shown on surveys and evaluations. Behavior also improved in the classrooms.
2011	Tonja Y. Trice	Making Prodigious Strides in Education Rural Middle School, Sumner County, TN	Determined academic achievement levels for QL trained students vs. control group in 7 <sup>th</sup> and 8 <sup>th</sup> graders in reading and language arts	Independent samples t-test found those with QL training significantly scored higher than the control group in the Tennessee Comprehensive Assessment Program (TCAP)
2011	Randy Zimmerman	CIVA High School Report by Principal, Colorado Springs Charter School	From 2008, QL has been measured, as well as 8 Keys of Excellence since 2010	Test scores in reading and writing increased dramatically. 82% reduction in teacher disciplinary referrals.
2012	Kelly Myers	Report on Student Leaders, by instructor at Buena Vista, Nashville, TN	8 Keys of Excellence retention remarks on leadership years after the training	Out of 500 freshman, three of four student elected officials came from the same small 4 <sup>th</sup> /5 <sup>th</sup> grade QL classroom, 4 years later, indicating retention of QL concepts of leadership
2012	QL Research Study	SuperCamp Study: 2000-2011 findings	Survey post 7-10 day training/camp based on 2,254 responses.	90% positive response, Confidence increased 84%, Motivation up 74%, family relationships up 79%, peer relationships up 87%
2011-2014	Corrine Jones	A Kaleidoscope Journey: Integrated Androgogies in the Diploma of Nursing Program: Quantum Learning and Campbell teaching, Victoria University, Australia	Proposed study combining QL with a complimentary approach for a Doctorate of Education Candidate	Final results are expected in 2014.

Table 2. *Area of Inquiry and Researchers*

The following Table describes the area of research inquiry and the names of the authors and year of publication of their study.

<b>Area of Inquiry</b>	<b>Researchers</b>	<b>Findings Summary</b>
Pre-post evaluation of challenged/below average students	Singer-Nourie, 1998; Anderson, 1996; Kerr 1997; Benn, 1999, 2003; Stone, 2000; Barlow, et al., 2002; Severson, 2005-7; Myer, Pedigo & Terrell, 2005	Challenged students were more successful in their standardized tests than previously. Found in Texas, Illinois, Canada, California, Tennessee and in rural, suburban and inner city environments. Challenges included economically and learning disabled students.
Influence of QL on testing /scores	Nolan, Farall, 1998; Vos Groenendal, 1983-89; Drolet, 2001; Myers et al., 2004-5; Severson 2005-7; Hinton, et al., 2008; Trice, 2011	Pre and post test scores were compared with significant positive test score changes in elementary, middle and high schools across many districts of the US and Canada.
Teacher perceptions of student improvement	Given, 2002	QL was educationally significant according to comments. It was measured by higher self-concept, engagement, and retention scores in teacher journals.
Parents, teachers, students: Attitudes and confidence levels	Barlas, et al., 2002; Myers, 2011-12	Leadership and confidence after QL grew for short and long term. Improvement and retention for middle school to high school students, in math and social science.
Teachers and principals on level of implementation of QL strategies and satisfaction	Peebles, DeSchryver, 2003; Myers, 2011-2	Instructors and principals reported high implementation of QL and high satisfaction scores.
QL and Campbell Teaching combined	Jones, 2011-14	Combining QL with a second complimentary approach is producing initial positive results in Victoria University, Australia.

## Detailed Studies on Quantum Learning

### Jeanette Vos-Groenendal, PhD study.

This Doctoral dissertation study was conducted with data from 1983-89, based upon collected data, surveys and interviews. It was published in 1991, and looked at results from 6,042 students aged 12-22 from a ten day intensive learning environment that uses teaching strategies based upon accelerated/integrative methodologies and philosophies. The program looked at meeting different abilities of students, from impacting potential drop outs to improving learning from highly motivated students. The learning environment itself is what made this program different, as it used joy, music and relaxation as well as a psychologically safe environment for learning along with and prior to cognitive instruction. The study's review of literature included much on the topic of mind-brain research.

The conclusion was that students from A grades to F grades range increased their GPA by a half point after 10 days of instruction. 98% of students with GPA of 1.9 and lower improved their GPA. QL had the strong effect of improving their emotional outlook toward themselves, their parents, their peers and education overall.

### Results of QL in Thornton Township High School.

This low income, highly ethnic high school was involved in the study of accelerated learning in 1998. 600 9<sup>th</sup> graders and 60 of their teachers were trained in QL methods. Students were found to have increased learning (See Chart 5, below), attendance and their attitudes (See Chart 6, below). They increased their skills in both math and reading, on standardized (Stanford Diagnostic) reading tests as well as their class grades at school.

After QL, teachers report is a dramatic change. 100% report being better teachers (See Figure 2, below)

Figure 2. Teachers reporting on student interests: Sara Singer-Nourie, 1998

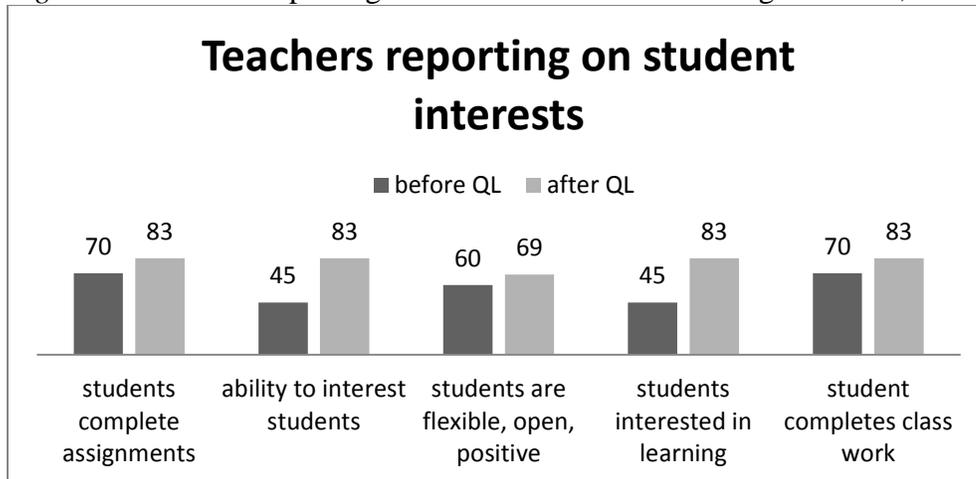


Figure 2: Teachers reporting on self: Sara Singer-Nourie.

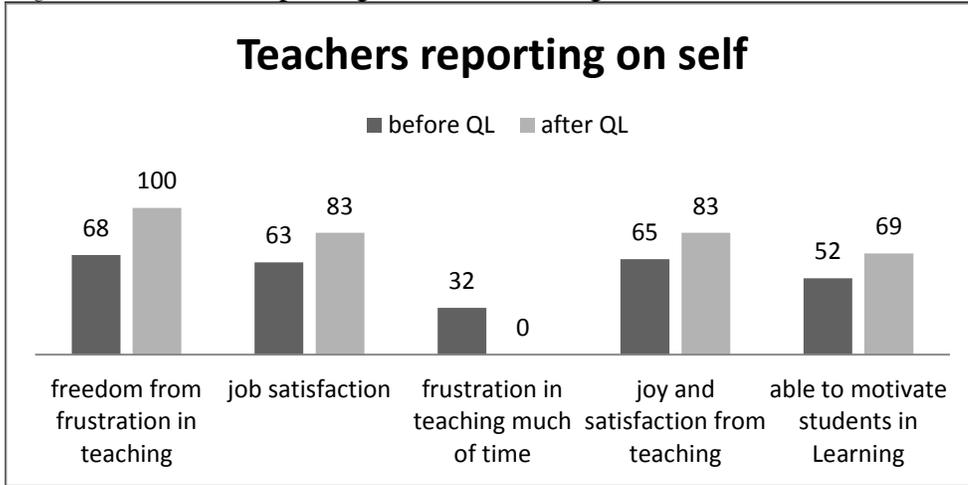


Figure 3. Students reporting on learning: Sara Singer-Nourie

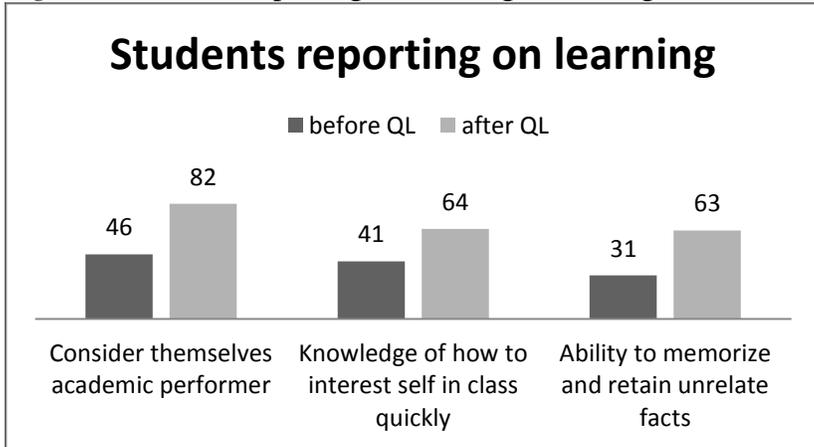
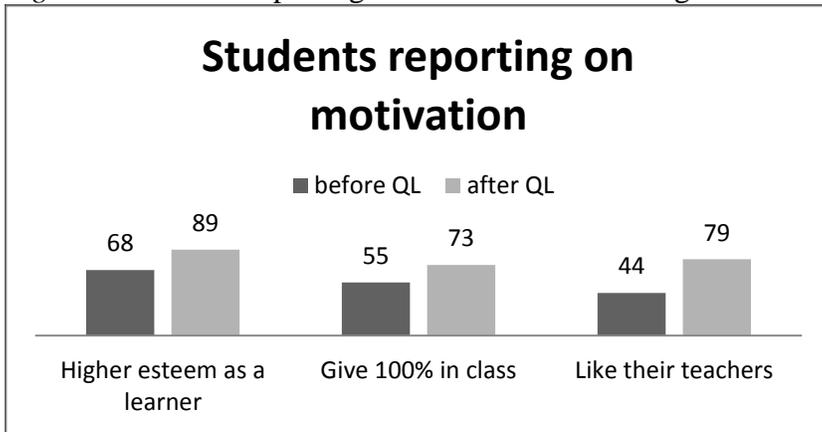


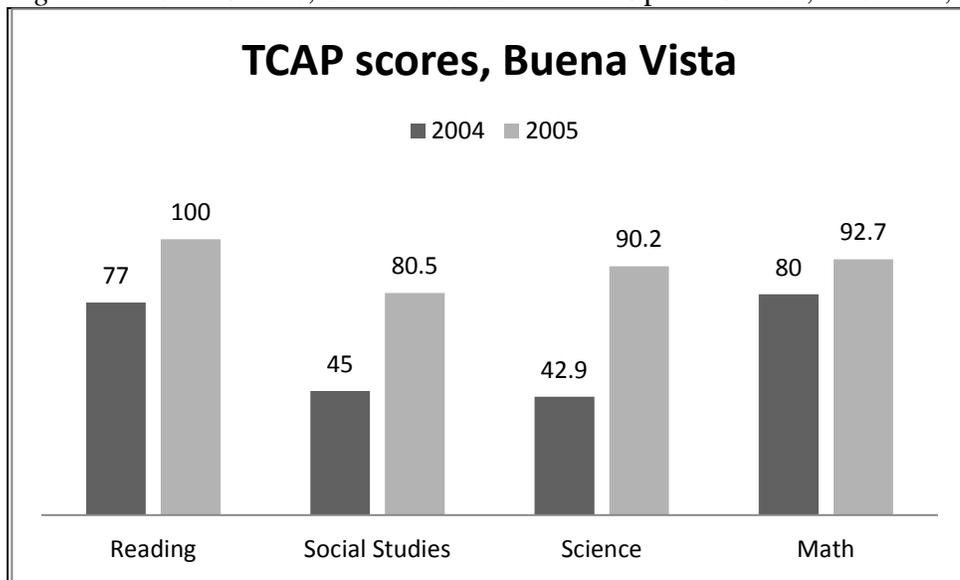
Figure 4. Students reporting on motivation: Sara Singer-Nourie



### Summary of Buena Vista Elementary School.

Three third grade teachers implemented QL methods every day in their classes from 2004 – 2005. This third grade group improved their reading, social studies, science and math scores. 99% of the students were African American, and 100% qualified for free or reduced price lunch at school. Only one other school in Metro Nashville, in an affluent area came close to these scores. The teachers attribute these scores and improvement to their commitment to implement Quantum Learning. See the chart below for more details on the Tennessee Comprehensive Assessment Program (TCAP). TCAP scores for these 3 third grade classes are shown in Chart 7, below. There was significant change in their scores from 2004 to 2005, especially in Social Studies and Science (Myer, Pedigo & Terrell, 2005).

Figure 5. TCAP Scores, Buena Vista Enhanced Option School, Nashville, TN, 2004-5



### Quantum Learning Classroom Management-Action Research.

Surveys on teacher's perception of student improvement taken various weeks after the Quantum Learning program, George Mason University Independent researcher compilation of teacher journal entries on Classroom Management measured by higher self-concept, engagement, and retention scores (Given, 2002).

### Quantum Learning for Students Encinitas School District.

Teacher survey at 4 schools, gathered by Asst. Superintendent, Bonnie Drolet, and distributed to small audience found the results magnitude to be educationally significant.

The district gathered perceptions of student improvement one month after QL program and found a positive impact on self concept, engagement, attendance and retention. Students were to rate themselves at the beginning of the program and again at the completion. One example is "Ability to get A's" went from 33% to 74%. The teachers were also surveyed on their before and after QL learning and life skills. An example of the teachers was, "Attitudes about tests" went from 29% to 43%. Students test taking skills increased 35%. Ability to memorize dates, names, facts, etc. also significantly increased (Drolet, 2001).

### Quantum Learning

### **New Evaluation Study of Quantum Learning's Impact on Achievement in Multiple Settings.**

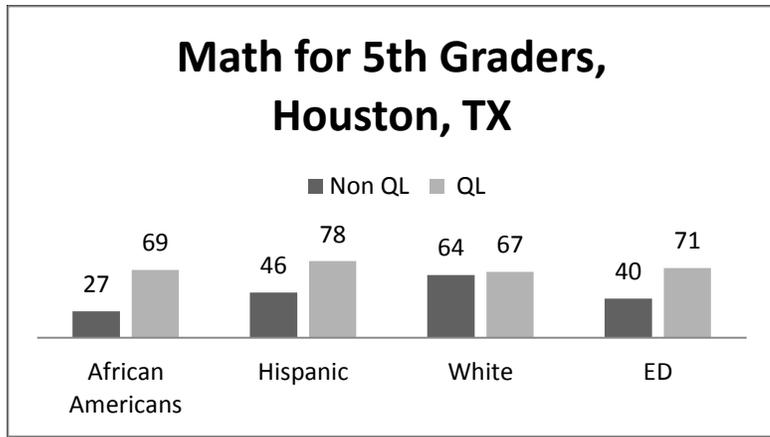
William Benn, an approved external evaluator for the California Department of Education (CDE) as an External Evaluator for Program Improvement Schools conducted and reported on multiple settings where QL was used. As an expert in program evaluation and program development and teaching, he has conducted process and outcome evaluation for over 100 projects across the United States. Benn's report compared schools with QL vs. schools without QL and proved statistical significance in grades 2-8 and 9-11. There was a positive impact on student achievement in 18 schools in 4 states, California, Illinois, Wyoming and Texas. In California, the Academic Performance Index (API), used by all 8,000 schools was used as a comparison. California also uses Stanford Achievement Tests (SAT-9), and this study compared these scores as well. In Illinois, Benn compared the Illinois Standardized Achievement Test (ISAT) and the Prairie State Achievement Exam (PSAE) results. In Wyoming, it was the Wyoming Comprehensive Assessment System (WYCAS) and in Texas, the Texas Assessment of Academic Skills (TAAS) and Texas Learning Index (TLI) were used to measure QL results. Studies proved QL to be both statistically significant and educationally significant in reading, math, writing and achievement tests (Benn, 2003).

### **School District, Cypress-Fairbanks Independent School District, Houston, TX.**

The district requested a QL program to help underperforming students prepare for a re-take of the Texas Assessment of Knowledge and Skills (TAKS) standardized exams. These students had all failed the math portion of the test on the first exam. They started their training for test taking and math skills on Saturdays, so students returned to school on weekends. 80% of this underperforming first group passed the next test a month later. QL programs soon extended district-wide. The district then became a site license partner with Quantum Learning and 10 teachers went through a train-the-trainer program and became site-based QL trainers as the program grew in numbers and popularity. Over three years, several thousand students from elementary, middle school and high school were trained and excelled far beyond students who were not trained (Bogard, 2006).

This chart summarized the results of 250 students preparing for Texas TAKS Math Test. The most significant gains were for African Americans (up 155%), Special Ed (up 77.5%) and Hispanics (up 69%) in passing grades on this standardized exam.

*Figure 6. Math for 5<sup>th</sup> Graders, Houston, TX*



As of 2011, 20 teachers have been trained and certified to teach Quantum Learning in the district, and Quantum Learning for Student programs are still held every summer. Instructional and Academic Coaches have also been trained in the Quantum Learning Train-the-Coach professional development program. Cypress Fairbanks has 87 schools over 110,000 students. It is the third largest school district in Texas (Quantum Learning, 2012).

### **Increasing Self-efficacy Beliefs in Middle School Students Using Quantum Learning Techniques.**

In Northern Georgia, two rural middle schools were compared, one with QL and one without. The study authors hypothesized that QL training improved the self-efficacy and therefore benefit students with greater academic achievement. In general, middle school students are resistant to academics, lack maturity, and show anxiety and effects of peer pressure. Studies show that with higher self-efficacy, students perform better academically. The authors reported that QL techniques created an environment that measurably improved self-efficacy of shown on surveys and evaluations. Behavior also improved in the classrooms (Hinton, Simpson & Smith, 2008).

### **Charter High School Excellence Report**

In June 2011, Principal Randy Zimmerman wrote to QL about CIVA High School, a Colorado Springs Charter School. From 2008, QL has been measured, as well as 8 Keys of Excellence since 2010. CIVA student test scores in reading and writing increased dramatically. “The cultural shift has been incredible: 82% reduction in teacher disciplinary referrals” (Zimmerman, 2011).

### **Making Prodigious Strides in Education at a Rural Middle School**

In 2011, PhD candidate Tonja J. Trice conducted her dissertation on a QL study presented to the Trevecca Nazarene University School of Education. This study determined academic achievement levels for QL trained students vs. a control group in 7<sup>th</sup> and 8<sup>th</sup> graders in reading and language arts categories.

Independent sample t-tests found those with QL training significantly scored higher than the control group, based upon scores from the Tennessee Comprehensive Assessment Program (TCAP) standardized tests. The 7<sup>th</sup> grade treatment group, those learning QL methods, reported an increase in confidence levels, completed course work, level of understanding and greater interest in learning. The 8<sup>th</sup> grade treatment group reported paying more attention in class, ability to memorize more information, complete more course work and understood more information

presented. The 7<sup>th</sup> and 8<sup>th</sup> grade teachers who were QL instructors reported they took more risks, made learning more meaningful, and held students' interest. Their students had a greater ability to retain information over the teachers in the control group (Trice, 2011).

### **8 Keys of Excellence .**

The Pearre Creek Elementary School in Franklin, Tennessee adopted the “8 Keys of Excellence” in September of 2011. Students were asked questions based on their self-assessment. Kindergarteners through 2<sup>nd</sup> graders (K-2) were asked 8 questions and 3<sup>rd</sup>-5<sup>th</sup> graders (3-5) were asked 21 questions about their behaviors and attitudes. A follow up study was conducted in January for each group of students. There was significant change by both groups, in a positive direction, for most of the factors studied. For example, K-2 scored (from 64 to 83%) 19% higher in winter on “Yes” When I make a mistake I do not blame others.” There was also a marked rise in the K-2 students who answered “Yes” on “I change my behavior when it gets me in trouble,” from 68% to 82%, a 14% increase. “On the whole, by implementing the 8 Keys of Excellence in our school, we saw positive behaviors and self-esteem increase by 9% in students grades K-2 from September to January” (Myers, 2012).

For the grades 3-5, 21 questions relating to school, classroom, parents, etc were asked on a four point scale, strongly agree, mostly agree, slightly agree, don't agree. 209 responses in the fall and 150 responses in the winter showed that their school became more of a “family” environment over the past few months since The Keys of Excellence were introduced. Strongly or mostly agree rose from 76.5% to 84.6% students felt that they were part of a school family (Myers, 2012).

**Dr. Mary Beth McCabe** is a full-time professor at the School of Business and Management at National University. She has a Doctorate from United States International University in marketing. Her research is in the fields of Hispanic Marketing, Media and Sustainability.