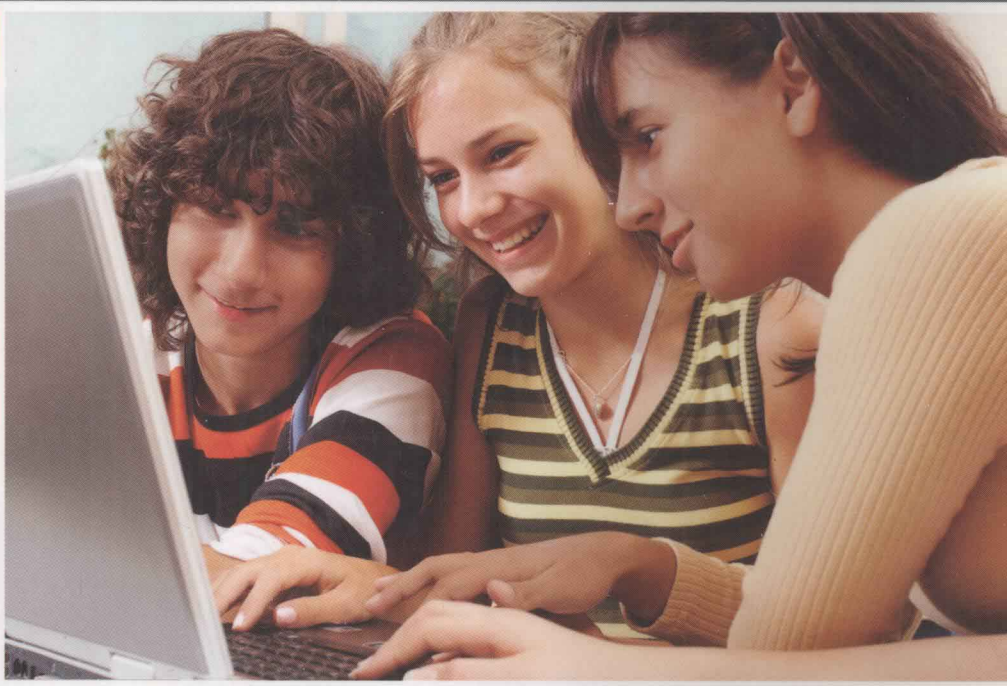
Gayle H. GREGORY ■ Lin KUZMICH

Student Teams That Get RESULTS

Teaching Tools for the Differentiated Classroom



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Gayle Gregory and Lin Kuzmich wish to thank the Corwin staff for their continued assistance and support of our publications. We learn from great professionals around the country dedicated to the success of all children. We want to return the favor by sharing what we have learned about students and improving achievement. Sharing, teaming, thinking, and hands-on meaningful learning is essential to student success. We appreciate the many fine authors and practitioners who have contributed to the field of student learning and growth.

Gayle and Lin work with dedicated teachers and leaders who are working hard to meet the needs of diverse learners. This book is designed to combine the need for students to work together and think critically about their own learning. Educators today face so many challenges; we hope this book provides many tools to help them accomplish great things for students. Educators are our heroes, and we hope their journey is successful for the sake of their students and for our future.

Gayle, Lin, and Corwin would like to thank the following people and organizations:

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About the Authors

Gayle H. Gregory is an internationally known consultant who has specialized in brain compatible learning and differentiated instruction and assessment.

She presents practical teacher/student-friendly strategies grounded in sound research that educators find easy to use in the classroom or schoolhouse tomorrow. Her interactive style and modeling of strategies help teachers and administrators transfer new ideas with ease.

She has had extensive experience in elementary, middle, and secondary schools, and in community colleges and universities. Gayle has also had district leadership roles including curriculum coordinator and staff development director. She has worked with Instructional Leadership Teams in many schools and districts throughout the country focusing on data analysis; using assessment, both formative and summative; and differentiating instruction based on readiness, learning profiles and interests.

Her areas of expertise include brain-compatible learning, block scheduling, emotional intelligence, instructional and assessment practices, differentiated instructional strategies, using data to differentiate, literacy, presentation skills, renewal of secondary schools, enhancing teacher quality, coaching and mentoring, managing change, and building professional learning communities.

Gayle is affiliated with many organizations, including the Association for Supervision and Curriculum Development and the National Staff Development Council, and is the author and co-author of numerous publications for teachers and administrators.

Gayle believes in lifelong learning for herself and others.

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Lin Kuzmich is a consultant, adjunct professor, and author from Loveland, Colorado. She served Thompson School District as the assistant superintendent, executive director of secondary and elementary instruction, director of professional development, assistant director of special education, and as the building principal for nine years. Lin's school was named a 2000 winner of the John R. Irwin Award for Academic Excellence and Improvement. Lin has taught elementary, middle, and high school levels in both regular and special education. Lin earned the Teacher of the Year Award for Denver Public Schools in 1979 and was Northern Colorado Principal of the Year in 2000. In addition, for the past decade, she was involved in staff development through several universities and the Tointon Institute for Educational Change. Currently, Lin is an adjunct professor/instructor at Colorado State University in the Principal Preparation Program. She is a Senior Consultant for the International Center for Leadership in Education. Lin is affiliated with many organizations, including the Association for Supervision and Curriculum Development and the National Association of Secondary Principals, and presents at numerous national conferences. Lin currently works with schools and districts across the country that are struggling to meet the needs of diverse learners, the requirements of state and national laws, and the changing education practices needed for the future success of our students. Lin's work with schools improves achievement results for students and increases the capacity of staff. Lin is passionate about helping educators prepare today's students for a successful future. Lin can be reached at 970-669-2290 or kuzenergy@gmail.com. Her Web site is www.kcsink.org.

Gayle Gregory's National Publications

Designing Brain-Compatible Learning, Second Edition

Thinking Inside the Block Schedule: Strategies for Teaching in Extended Periods of Time

Differentiated Instructional Strategies: One Size Doesn't Fit All, Second Edition

Differentiated Instructional Strategies in Practice: Training, Implementation, and Supervision

Differentiation With Style to Maximize Student Achievement

Differentiated Instructional Strategies for Science

Videos:

Gayle is featured in the Video Journal of Education's bestselling elementary and secondary videos, *Differentiating Instruction to Meet the Needs of All Learners.*

Lin Kuzmich's Government and National Publications

Published by Colorado Department of Education and the Centennial BOCES:

School Improvement Planning

Data Driven Instruction Kit and video

Facilitating Evaluation in a Standards-Based Classroom

Published by International Center for Leadership in Education (Rexford, NY):

Redefining Literacy in Grades 7–12: Strategies for Document, Technological, and Quantitative Literacy

21st Century Learning Criteria: Stretch Learning (Upcoming publication winter 2009)

Gayle and Lin's Joint National Publications

Data Driven Differentiation in the Standards-Based Classroom

Differentiated Literacy Strategies for Student Growth Grades K–6

Differentiated Literacy Strategies for Student Growth Grades 7–12

The Differentiated Instructional Strategies 10 Book Collection

Teacher Teams That Get Results

Teacher Teams That Get Results Multimedia Kit

Gayle and Lin are featured in the Video Journal of Education's elementary and secondary video: *Applied Differentiation: Making It Work in the Classroom.*

This book is dedicated to the memory of those we lost who inspired and loved us.
Their loving memory lives on through our work and lives.

Joe Pavelka
Dorothy and Michael Gregory
Pat and Libby Horenstein
Steve and Catherine Kuzmich

Contents

Further resources related to *Student Teams That Get Results* can be found at www.CorwinPress.com/studentteams_resources

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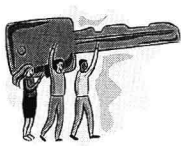
Introduction to *Student Teams That Get Results*



> Why are connections essential? The essence of human interaction is social, based on relationships to create fertile soil for learning. Teachers and students must make daily and positive connections.
>
> Gregory and Kuzmich, 2004.

PURPOSE FOR THIS BOOK

Busy teachers struggle daily with the demands of increased accountability and need to develop skill and proficiency in diverse learners. Teachers want students to succeed and excel. We want to provide teachers with tools that make a difference and have high payoff in terms of results. Supplying teachers with high quality tools will help them increase student performance. Some tools work better than others and get results faster for many types of learners. Carefully chosen, brain-compatible and research-based tools help students deepen thinking and accelerate learning. Tools that actively engage students and connect to their emotional needs help busy teachers meet diverse learning needs. In this book, we focus on the power of collaboration and dialogue to serve diverse learners in a differentiated classroom. In a differentiated classroom, we rely on students' ability to work in flexible groups (partners or small groups). In these groups, we want to foster meaningful dialogue that deepens student understanding and

facilitates aural and interactive rehearsal. Learning floats on a sea of conversation. Dialogue between and among learners is more powerful than a teacher talking to one student while the rest listen. The more minds that are engaged the better, and "it's hard to get left out of a pair" (Johnson & Johnson, 1991). Having to express ideas to others deepens understanding of concepts and clarifies thinking. Auditory learners benefit not only from the sound of the teacher's voice but also their peer's and their own voices. For teachers who are "eavesdropping," it's a great assessment tool. Just listening as students share ideas and explanations, teachers garner assessment data answering questions such as the following:

- Do they understand this material?
- Are there any misconceptions?
- Are there any gaps that need to be filled?
- How might I group students to capitalize on their knowledge and skill?

■ USING WHAT WE KNOW ABOUT THE BRAIN

Theaters of the Mind

Using the "Theaters of the Mind" helps teachers tap into the brain's five natural learning systems (Given, 2002a). This information about the brain helps us increase student transfer of learning and skills to successful performance. Each of our diverse learners in the differentiated classroom will benefit from opening the "cineplex" and using each theater to experience and process new information and skills.

Social Learning System

"All of us prefer to interact with those whose presence increases the brain's feel-good neurotransmitter brain levels, resulting from feelings of comfort, trust, respect, and affection" (Panksepp, 1998). Students benefit from frequent well planned social interaction in the classroom using techniques that foster a positive environment and deepens thinking. Examples of tools that support social learning include: organizers for decision making and problem solving, organizers that require cooperative group work to complete, and strategies that support the understanding of controversial social or political topics.

Emotional Learning System

People need to feel safe and supported to take risks. Students also need challenging tasks with a minimal level of threat or risk in order to learn new skills. Examples of strategies that support emotional learning include: methods that establish relevancy and access prior knowledge and organizers that require students to self evaluate thinking. Building a safe, supportive environment in a differentiated classroom helps all learners lower stress levels and recognize that we are more similar than different, but each of us have different strengths and needs. At times, a student or group of students will take the lead and other times follow. Fair isn't

always equal and equal isn't always fair. Emotions play a large role in engaging attention. Brains like to enjoy themselves in the learning process. Why not make learning positive and fun (focused on learning goals of course) rather than stressful and threatening? Neurotransmitters are released in the brain during "eustress" (positive) that actually help in cementing information in long-term memory. It has been said that angels can fly because they take themselves lightly.

Cognitive Learning System

Conscious language development and focused attention increases memory. Students need to use all senses to process new information. Examples of advanced organizers that support cognitive learning include: organizers that help students see patterns, deepen concepts, and note relationships as well as organizers that connect new learning to prior background knowledge.

Physical Learning System

Active problem solving supports our physical needs. Interaction, movement, and creation of products are ways to develop a problem solving orientation to learning. Examples of advanced organizers that support physical learning include: organizers that are graphic and highly visual, require active engagement, and challenge established ideas or provide novelty. Physical movement lowers the cortisol and sodium levels that increase during stress. If these are continually in the blood stream over time, they can lower immunity and create barriers to learning. Movement pumps glucose and oxygen to the brain. Both are needed to keep the brain engaged and processing.

Reflective Learning System

Metacognition, questioning, analysis, reaction, and goal setting all help us reflect on what we do and the results we get. We will not be able to sustain new learning without this type of reflective practice and dialogue. Examples of advanced organizers that support reflective learning include: organizers that help students see their work in relationship to a criteria or model and include ways to apply and integrate learning, and organizers that help us use adaptive and analytic reasoning with future or unknown situations and applications of learning. We learn from experience if we reflect on experience.

Teachers fostering differentiation, who tap into all five "theaters of the mind," engage more diverse learners and increase the active processing and deeper understanding of new information and skills in a variety of ways.

BRAIN BITS ■

Over the past twenty years, the emerging research and findings on how the brain operates has caused us to rethink student learning. The most important aspect of this research is how teachers use brain-friendly strategies tied to the desired results for learning.

Certain factors help us meet and support the brain based learning needs of students:

1. Students need to feel safe: students learn more and faster in trustworthy environments. Tools that provide risk free rehearsal and opportunities to celebrate help students feel safe.
2. Students need to learn in a state of relaxed alertness: students need high expectations with adequate support, encouragement, and feedback. Tools that develop routines and habits that have multiple applications help students anticipate learning in a relaxed manner.
3. Students need learning that allows an emotional impact: students need a personal connection, need to satisfy an urge "to know," and know that their learning makes a difference. Tools that connect to students' prior knowledge and are engaging or challenging help students make emotional connections.
4. Students need social relationships: learners crave validation and acceptance from peers and teachers. Tools that help students work in various size groups support this tendency.
5. Students need to form patterns, seek meaning and relevancy, and set goals: students need to connect prior knowledge and experience to new ideas and to integrate the new learning with the old. Tools that are graphic, seek to show relationships, and are relevant support student needs to form meaning.
6. Students enjoy an active learning environment that is engaging: students need to construct their own meaning from new knowledge and skills in a form that makes sense. Tools that encourage inference, creativity, and adaptive reasoning help students deepen understanding and increase lifelong learning.
7. Students need learning that supports multiple pathways to memory: students need variety and multi-sensory approaches to meet individual processing and learning needs. Tools that work with student learning styles and methods of knowing help increase long-term memory.

The brain's job in the first five to seven years is to get upright, mobile, and communicate. Communication begins with the spoken word. This ability is hard-wired in the brain. A child immersed in any culture will pick up the spoken word with no formal training.

■ USING WHAT WE KNOW ABOUT RESEARCH-BASED PRACTICES

Marzano, Pickering, and Pollack (2001) detail the research and effect size that clearly indicates the usefulness and success of such tools as questioning, using advanced organizers, note taking strategies, etc. There are certainly many types of tools and in this book we use brain-friendly methods, strategies that help teachers meet diverse learners' styles of learning, and tools that are research-based.

The following figure connects the instructional strategies research to what we know about the brain and then offers tactics to use every day in the classroom.

Classroom Instruction That Works Tied to Brain Research

Instructional Strategies	*Percentile Gain*	*Brain Research*	*Tactics*
Similarities and differences, compare, contrast, classifying, analogies and metaphors	45	**Brain seeks patterns, connections, and relationships between and among prior and new learning.**	**Classifying Compare, contrast Venn Synectics Concept attainment Concept formation iREAP T and Y charts**
Note taking and summarizing	34	**The brain pays attention to meaningful information and deletes that which is not relevant.**	**Mind maps Word webs Jigsaw Reciprocal teaching Four-corner processing Point of View iREAP**
Reinforcing effort and providing recognition	29	**Brain responds to challenge and not to threat. Emotions enhance learning.**	**Stories of determination Celebrate successes**
Assigning homework and practice	28	**If you don't use it, you lose it. Practice and rehearsal makes learning "stick."**	**Create challenges in a variety of ways**
Generating nonlinguistic representations	27	**The brain is a parallel processor. Visual stimuli are recalled with 90% accuracy.**	**Mind maps Graphic organizers Models Wallpaper Poster**
Using Cooperative Group Learning	27	**The brain is social. Collaboration facilitates understanding and higher order thinking.**	**Think-Pair-Share Say and Switch ABC Conversations Random Partners Jigsaw P.I.G.S.F. Community Circle Give and Go**
Setting objectives and providing feedback	23	**The brain responds to high challenge and continues to strive based on feedback.**	**Helpful feedback Rubrics Criteria Expectations Right angle**
Generating and testing hypothesis	23	**The brain is curious and has an innate need to make meaning through patterns.**	**Problem based/Inquiry Portfolios Case studies Question matters Cause and Effect**
Providing questions, cues, and advance organizers	22	**The brain responds to wholes and parts. All learners need to open "mental files" into which new learning can be hooked.**	**Wait time Questioning techniques Agenda maps Cubing Question matters**

SOURCE: Adapted from: Marzano, R., Pickering, D., & Pollack, J. (2001) and Gregory, G., & Parry, T. (2006)

This book will deal with several of the McREL strategies that teachers can use easily with very little preparation time and effort. One of the primary functions of this book is to help teachers take cooperative group learning to new levels when paired with other effective critical thinking strategies such as graphic organizers, appropriate note taking, and other tools to increase thinking skills within group learning. It might be said that if every classroom teacher had these nine strategies in executive control, we might be differentiating enough—as they attend to the various learning styles and multiple intelligences of diverse learners. They also provide a great variety of tools in the "toolkit" for differentiating instruction.

Cooperative group learning research for the last 25 years suggests that when group learning is implemented effectively, we can expect our students to have the following (adapted from Johnson, Johnson, & Holubec, 1993):

- High self-esteem
- Higher achievement
- Increased retention
- Greater social support
- More on-task behavior
- Greater collaborative skills
- Greater intrinsic motivation
- Increased perspective taking
- Better attitudes toward school
- Better attitudes toward teachers
- Greater use of high level reasoning
- More positive psychological adjustment

The clear benefits to students are well documented. The key is to make certain that group work is high quality, not just a place to get help filling out a worksheet. By pairing great grouping strategies with other practices, which increase student achievement, this book is designed to help teachers select quality methods of raising achievement and critical thinking for all students in a differentiated classroom.

Three top skills students need to work in a group:

1. Attentive Listening
   - Check for understanding: Do you mean . . . ? I think I heard you say . . . .
   - Body language speaks volumes; learn to read it in others.
2. Accepting Others' Ideas
   - Thank group members.
   - Give feedback.
   - Celebrate.
3. Disagreeing With Ideas, Not People
   - Use I statements . . . .
   - Your idea is interesting, *and* I think . . . .

In order to actively construct meaning, students need tools to organize information and skills, develop patterns that can be retrieved by the brain