Photographs and text present highlights in the work of three teachers and one teaching team honored by TeachEach, a Northern California privately supported program to recognize and award K-12 teachers or teaching teams who teach and reach all the students in their classrooms. Quotes from the honorees and photographs showing the teachers in action illustrate the principles of the program. The TeachEach teachers are seen as being innovators, communicators, listeners, motivators, mentors, coaches, realists, and evaluators. Common principles emphasized by the honored teachers include the importance of student engagement; utilization of the classroom's physical environment for learning; and emphasis on organization, learning process, and social/communication skills. Other principles illustrated include teaching respect and community, using effective instructional strategies, and finding innovative ways to demonstrate student learning. A resource list completes the booklet. (DB)
Teach

Classroom strategies to REACH ALL LEARNERS
TEACHER TO TEACHER

In 1996 we challenged teachers in Northern California with $100,000 in awards for demonstrating their ability to teach and reach all students in the regular classroom — especially those who struggle with learning differences.

Now, using this guide as a starting place, we want to share their stories and experiences with the broader community.

Our five 1997 TeachEach honorees teach a diverse range of learners — students who learn in a variety of different ways, and whose learning differences are accentuated by differences in geography, culture, language and community life. The honorees teach in a variety of settings, such as elementary school, middle school, and high school, and in inner-city neighborhoods and suburban communities. Their class sizes range from fewer than 20 students to more than 50 students.

For the past ten years, teachers have told us their most valuable learning often happens when they are sharing teaching practices with other classroom teachers. Discussing the work of teaching with colleagues gives professionals an opportunity to solve problems more creatively than they can working alone.

TeachEach is an award for teachers, but ultimately our mission is to help students. This guide was produced for teachers about teachers, and our greatest hope is that it will lead to many more students reaching their full potential.

Charles R. Schwab

Helen O. Schwab

The Charles & Helen Schwab Foundation is a non-profit foundation dedicated to improving the lives of students with learning differences. In support of the Foundation's mission, TeachEach not only awards teachers but also shares innovative and effective classroom practices and strategies with educators and parents through booklets and other resources.
TeachEach was created by the Charles and Helen Schwab Foundation to recognize and award K-12 teachers or teaching teams who teach — and reach — all students. In 1997, the Foundation awarded a total of $100,000 to honorees and their schools in the Northern California area who most demonstrate the principles of TeachEach in action. This guide is the first in a series of publications and resources created for teachers by teachers. While the TeachEach awards program is currently limited to teachers in Northern California, this resource was created to benefit all teachers, regardless of where they teach.

Do you know a teacher who makes each student shine?

TeachEach recognizes and honors teachers who demonstrate an exceptional ability to make each student in their classrooms shine. Members of the community, including students, parents and educators, were invited to help us identify teachers who produce positive outcomes for all of their students. Once nominated, eligible teachers and teaching teams were required to participate in a rigorous selection process that began with the submission of a TeachEach application. From these applications, semi-finalists were selected for classroom observations and interviews; the list of distinguished semi-finalists appears at the end of this booklet. Finalists completed additional interviews before being designated as TeachEach Honorees.

Who was eligible to be nominated?

Current K-12 general education teachers are eligible so long as they teach at a public, independent or parochial school in an eligible county in Northern California.

How were the criteria developed?

An advisory panel representing a wide range of educational experience and expertise assisted the Foundation in developing guiding principles for selecting teachers whose excellent teaching practices result in high outcomes for all students. The panel included classroom teachers, school administrators, parents and community members.
TEACHING EACH

Research shows that one of every five students has a learning or reading disability. That means in a classroom of 30 students, as many as six students will process words and information differently from other students, even though they have average or above average intelligence.

In every classroom, students learn differently. Some do best working in groups, others prefer to work independently. Some thrive with hands-on demonstrations, where they can touch and feel. Others comprehend when they have visual models, and still others learn by hearing information and instructions. Despite all the diversity, there’s one thing all students need to succeed in the classroom and the world: teachers who teach — and reach — every student. The TeachEach Award is our way of recognizing and honoring kindergarten through twelfth grade teachers whose innovative practices and strategies engage the wide range of learners in their classrooms and inspire every student to grow.


These are some of the shared traits of the 1997 TeachEach honorees: Jennifer Miley, Peggy Carlock, Jane Risk, and the teaching team of Brenda Goldstein and Vonneke Miller.

Each of these teachers has:
A PASSION to see each student succeed.
The PATIENCE to discover each student’s learning needs, and to help all students accept and strengthen their unique talents and skills.
The PERSISTENCE to keep challenging students to fulfill their potential, continuously motivating them to high standards and rewarding them with encouragement for work well done.
WHAT IS A LEARNING DISABILITY?
The term “learning disability” describes a neurobiological disorder in which a person’s brain works or is structured differently. Learning disabilities can affect a person’s ability to speak, listen, read, write, spell, reason, recall, organize information and do mathematics. A learning disability can’t be cured or fixed; it is a lifelong issue.

In this guide we use the term “learning disabilities” when teachers specifically cite examples of students who have been diagnosed with the condition. We use the broad term “learning differences” to describe both students diagnosed with learning disabilities and students who have not been diagnosed, but who struggle with aspects of learning.

COMMON LEARNING DISABILITIES
Dyslexia - difficulty understanding words, sentences, or paragraphs
Dyscalculia - difficulty solving arithmetic problems and grasping math concepts
Dysgraphia - difficulty forming letters or writing within a defined space

Learning disabilities should not be confused with other disabilities such as mental retardation, autism, deafness, blindness, and behavioral disorders.
A person with dyslexia might read

"As a person who has struggled with reading problems all of my life, I believe that people who learn differently look at the world from unique perspectives. Many students are highly creative, visualizing solutions that might not occur to the rest of us.

By identifying what gets in the way of learning for students, we are able to nurture their strengths, improve their self-esteem, and teach them the skills they will need to become our inventors, leaders, and entrepreneurs."

- Charles R. Schwab

M  i l l e r  a n d  G o l d s t e i n ,  f o r  e x a m p l e ,  a r e  t e a m  t e a c h e r s  w h o  u r g e  t h e i r  s t u d e n t s  t o  s t r e t c h  t o  t h e  l i m i t s  o f  t h e i r  c a p a b i l i t i e s .  " T h e r e  i s  a  c o m f o r t  z o n e  a n d  w e  l o o k  f o r  i t .  W e  d o  n ' t  w a n t  t h e m  i n  t h e  c o m f o r t  z o n e , "  G o l d s t e i n  s a y s .  " A n d  w e ' r e  n o t  s a y i n g  w e  t r y  t o  m a k e  l i f e  d i f f i c u l t  f o r  t h e m ,  e i t h e r , "  M i l l e r  a d d s .  " B u t  w e  a l w a y s  w a n t  t h e m  j u s t  b e y o n d  t h a t  c o m f o r t  z o n e  b e c a u s e  t h a t ' s  t h e  o n l y  t i m e  t h a t  y o u  a r e  r e a l l y  m o v i n g  o n , r e a l l y  l e a r n i n g . "

T  e a c h E a c h  t e a c h e r s  g o  t o  g r e a t  l e n g t h s  t o  s u p p o r t  e a c h  s t u d e n t ' s  b i d  t o  a c h i e v e .  T h e y  r e s p e c t  s t u d e n t s .  T h e y  t r u s t  s t u d e n t s .  A n d  t h e y  a r e  c o n f i d e n t  a l l  s t u d e n t s  c a n  s c e e d .  ' I  h a v e  e m b r a c e d  m y  s t u d e n t s  a s  m y  p a r t n e r s ;  w e  l e a r n  a b o u t  t e a c h i n g  f r o m  o n e  a n o t h e r , "  C a r l o c k  s a y s .  A l l  o f  t h e s e  t e a c h e r s  a r e  e a g e r  t o  k n o w  a b o u t  s t u d e n t s '  f a m i l i e s  a n d  f r i e n d s .  T h e y  a r e  s e n s i t i v e  t o  s t u d e n t s '  e t h n i c  a n d  c u l t u r a l  b a c k g r o u n d s  a n d  c u s t o m s .  T h e y  s e e k  t o  b e c o m e  a w a r e  o f  t h e  s o c i a l  a n d  e c o n o m i c  c i r c u m s t a n c e s  t h a t  a f f e c t  s t u d e n t s '  l i v e s .  T h e y  o f t e n  s h a r e  s t o r i e s  a b o u t  t h e i r  o w n  l i v e s  b e y o n d  s c h o o l ,  a n d  m a n y  e n g a g e  i n  c o m m u n i t y  a c t i v i t i e s  w i t h  s t u d e n t s  a n d  p a r e n t s .

R  i s k ,  f o r  e x a m p l e ,  l o o k s  f o r w a r d  t o  t a k i n g  m i d - y e a r  c a m p i n g  t r i p s  i n t o  s n o w  c o u n t r y  w i t h  h e r  c l a s s ,  s t u d e n t s  w h o  l i v e  i n  S a n  F r a n c i s c o  n e i g h b o r h o o d s .  ' C a m p i n g  g i v e s  s t u d e n t s  a m u c h  n e e d e d  b r e a k  f r o m  t h e i r  s t r e s s f u l  u r b a n  s u r r o u n d i n g s ,  t e a c h e s  t h e m  t o  w o r k  t o g e t h e r  f o r  a  c o m m o n  p u r p o s e ,  a n d  c r e a t e s  a  b o n d  o f  t r u s t  b e t w e e n  s t u d e n t s  a n d  t e a c h e r s , '  s h e  s a y s .

T h e o u r  h o n o r e e s  h a v e  s i m i l a r  b e l i e f s  a b o u t  w h a t  m a k e s  f o r  g o o d  t e a c h i n g .  T e a c h E a c h  t e a c h e r s  a r e :

- **INNOVATORS** who are willing to modify teaching practices to improve students' learning
- **COMMUNICATORS** who can present information in a variety of ways to meet all students' needs
- **LISTENERS** who are interested in students' feedback
- **MOTIVATORS** who are willing to pace teaching to match each student's speed and style of learning
- **MENTORS** who share tips about how to learn, and who advise students both inside and outside the classroom — and even in subsequent years of school
As a student with dyslexia, Vonneke Miller struggled through school. Brenda Goldstein had to work harder than others relying on her strong visual skills.

Because of this, as teachers, they are dedicated to engaging and inspiring their students. After teaming up at Peterson Middle School, they spent countless hours creating a one-of-a-kind learning center and developing lessons that inspire students to succeed, some for the first time. They adapt to students' learning preferences and share a core belief that children attain self-esteem through achievement.

Miller and Goldstein are gregarious individuals, playing back and forth with each other and their young scientists, motivating students to work to high standards. They demand truth, trust, personal best, and allow no put downs. In their classrooms, it’s the students’ responsibility to let the teachers know if they are having difficulty grasping concepts.

“If they don’t get it,” Miller says, “they better be saying, ‘Run that by me in a different way.’”
PRESENTING TO A VARIETY OF LEARNERS

To reach each student, our honorees have learned that they need to present information in a variety of ways, so that every student can process the information—no matter what their learning preferences may be. Some of the strategies include:

• Writing instructions or information on the board and on a student's paper
• Playing recordings, giving oral instructions and lessons, and showing materials on videotape
• Using physical objects, games, puzzles, and paper cut-outs
• Incorporating poetry and song into the curriculum
• Emphasizing important material by using large type and bold fonts, underlining and italicizing key facts and concepts, and breaking up copy with graphic illustrations
• Personalizing information by sprinkling students’ names throughout lectures
• Using humor and metaphors to grab students’ attention and improve their retention of important concepts and facts

"Having all these different strategies is so important," says Jennifer Miley, "because if you teach the same way all the time you’re not going to reach more than one-third of the kids.”

COACHES who encourage students to work in groups and show them how to resolve conflict peaceably

REALISTS who are convinced that students try their hardest when studies, materials, and learning activities are connected to real-life experiences

EVALUATORS who identify challenging goals for their students, create opportunities for students to achieve those goals, and continuously monitor students' progress

In many cases, these teachers have struggled to overcome or compensate for their own learning disabilities or have faced social and economic circumstances that threatened to jeopardize their potential. "One of my strongest attributes is the ability to put myself in a student's shoes, particularly those who are struggling with some aspect of school," Miley says. "Empathy is a vital part of my daily interactions with students.”

To give courage to their students and colleagues, the honorees have been willing to talk openly about their own frustrations, fears, and confusion as learners, and also about how they have arrived at their teaching philosophies, practices, and strategies.

Bottom line: Jennifer Miley, Brenda Goldstein, Vonneke Miller, Peggy Carlock, and Jane Risk are dedicated to learning and the process of learning. They respect students. They are passionate about working with students. They are committed to improving their craft. As a result, these are teachers who are able to teach, and reach, every student.
ENGAGING STUDENTS

The most important aspect of effective teaching, TeachEach honorees believe, is to engage students in interesting, life-related learning every day. These teachers begin each year with basic skills and concepts; as the year progresses, they coach students as they tackle more difficult challenges, such as multi-faceted problem-solving and critical-thinking activities. These teachers entice students to cultivate individual talents while making sure work meets high standards.

The first step, these teachers say, is to create a safe environment that is conducive to learning. The next step is to determine goals for the students, based on an assessment of each student's needs, and then to make sure students have the necessary tools to meet these challenges. Once this is done, the teachers provide unique, experiential lessons and projects for their students. Finally, they monitor students' progress, checking for understanding throughout the year, to make sure students are achieving results.

Wow! What a classroom!

Once you have seen their classroom, teammates Brenda Goldstein and Vonneke Miller like to think you never again will have to ask, 'What does an environment conducive to learning look like?' Their sixth grade science learning center — a converted high school auto shop — is set up like a real-world laboratory and decorated with powerful images of our natural world. These teachers, their spouses, students, friends, and sponsors did all of the work to set it up.

The walls are covered in a massive, collage-like spread of colorful photographs, posters, and examples of students' work. There are also floor-to-ceiling photo-murals: one captures the serenity of the planet Earth — a blue ball as seen from outer space, and the other shows the rippling energy of white-water rapids on a forest-lined river.

What would you do if all clothing was "one size fits all"?

"We developed this program over the years. It definitely takes a lot of planning, trial and error. As a teacher you have trial and error everyday in your classroom. You're not always going to get the right answer. We have thrown out many labs or activities that didn't seem to work. We bounce ideas off each other. We look at the group of kids we have coming to class, and we ask each other, 'How we can change to suit their needs?'"

Brenda Goldstein
How many ways are there from Point A to Point B?

"We watch how children work. For example, we can't just assume they all know how to draw a straight line with a ruler. For kids who have fine motor coordination problems, using a big ruler can be very difficult. The thing moves on them all the time.

You have to develop something that works for them. Something easy to handle that helps them be successful to draw the straight line. You show them how to use it, then you model using it. I came up with using a tongue depressor instead of the ruler."

Vonneke Miller
Overhead, cardboard silver stars, inflatable dinosaurs, and other toy animals hang by threads from the ceiling. Nearby there’s a walk-in model of a space-station laboratory, accented by models of NASA rocket ships. Students work at library-style tables, two chairs to a side, four chairs to a table. Plants grown by the students are scattered everywhere — lettuce, radishes, tomatoes, and exotic tropical plants — and they are all hydroponics, growing without soil in plastic, metal, and Styrofoam containers. In a back room, Koi fish swim around and around in a stainless-steel pond. Music plays in the background; almost imperceptible, soothing, instrumental.

What's the deal? It's to get their attention," Miller says. "What you do with your classroom lets students know how serious you are about what it is they are going to be doing. If students can see effort on your part then, they say, 'Well, they're pretty serious about their subject.'

All TeachEach honorees use the classroom's physical environment to stimulate learning. They cover the walls, shelves, and counters, for example, with photographs of students deeply engaged in learning and with examples of student's work — often multi-dimensional creations that add richness and variety to the tapestry. These photographs are an important tool, teachers say. Students are able to see images of themselves hard at work and they can also share their accomplishments with others. To get these spontaneous photographs, teachers keep a camera handy in the classroom. 'One major rationale for display is pride," second grade teacher Jennifer Miley says. "When they do their best, students are proud of their work. They like to show other people. I always have kids standing around saying, 'Which one is yours? I did this one.'

Learning Tools: 'If I had a hammer ...'

Once the environment is set, teachers equip students with learning tools. At this stage, students learn:

**ORGANIZATION SKILLS**
- how to take notes, using techniques like underlining, putting key terms and words in bold print, and writing formal outlines and illustration outlines

**HOOK, LINE & SINKER**

As if their festive classrooms weren't enough to bait sixth-grade students' interest in learning, Yonneke Miller and Brenda Goldstein developed a one-of-a-kind science course to get children to bite — hook, line, and sinker.

In "Astro-1," a project supported by 40 business and industry organizations, including NASA, students grow different types of plants in soilless conditions — hydroponics. Peterson Middle School, in fact, has become an actual research site for testing hydroponics systems, nutrients, mediums, and lighting systems.

This is real research, with the teachers and students monitoring equipment, product performance, and plant growth in science lab conditions. The students grow lettuce and test technology in two 12’x7’ modules that replicate Space Station Freedom.

The lab work provides the children, some of whom are sons and daughters of migrant farmers, with hands-on opportunities to apply knowledge and skills they’ve learned throughout the school year.
Make a list of the three people in your life who have inspired you the most.

1
2
3

Teach Each honoree has different interests and styles, but they share similar priorities. Here's what they had to say when asked to rate what matters most to their classroom practice:

- Believing in every student's ability to learn
- Helping students develop social skills
- Creating a repertoire of teaching strategies to meet students' different needs
- Getting results - ensuring that individual students are making measurable progress
- Developing their own interpersonal and intrapersonal skills

Managing materials, such as putting notes in binders, finished work in portfolios, and tabbing pages

How to study for tests, information organizing strategies, and preparing for specific types of tests, ranging from performance testing to content testing

LEARNING PROCESS SKILLS
Scientific skills, such as how to measure, observe, record and plot data, and create line and bar graphs

Using research resources, such as the library and, ever increasingly, the Internet

SOCIAL AND COMMUNICATION SKILLS
How to work with one another, using groups to discuss concepts and ideas

How to make individual and joint presentations, including projects, on videotape

The honorees take time to teach these skills early in the school year and to reinforce them again and again during the year, because they want students to be able to work independently outside the classroom and to be prepared for subsequent years of schooling.

Becoming an expert!

First the setting. Then the tools. Now the real work begins. Our honorees specialize in presenting unique, challenging lessons, ones that typically span the curriculum and have real-life applications. They consider this the key to engaging students in high-expectation learning, especially in a room filled with students of diverse talents and abilities.

The reality, Goldstein and Miller say, is that a curriculum needs to have purpose and relevance to catch the attention of someone trying awfully hard not to care about anything. Combining learning skills with their real-life application is the backbone of this team's program — and isn't often enough seen in educational curricula.

Make the subject important to your students and watch them look at education in a whole new light, they say. The teaching team does just that through the 'Astro-1' program, a
A science course in which students grow plants, mostly lettuce, in soilless conditions. As part of their lab research, students test equipment, nutrients, and mediums for hydroponics manufacturers.

Mathematics teacher Jane Risk makes learning fun for her sixth grade students by teaching fractions and decimals by using the stock listings in the Wall Street Journal. Twice a year she engages students in quarter-long, challenge-based, integrated projects involving such themes as business, architecture, nutrition, astronomy, probability and chemistry.

One big reward for taking time to develop life-connected lessons is the delight of listening to students share their experiences, chemistry teacher Peggy Carlock says. She recalls a high school girl's tale of gasoline-soaked hands. Yolanda told her dad he'd never wash the gasoline off his hands by only using water, because water has polar bonds and gasoline has nonpolar bonds. He tried using water anyway. No good. Later, with her mother upset that the smell of gasoline was overpowering dinner-table aromas, Yolanda recommended that her father use baby oil — or anything oily — because it would also have nonpolar bonds. It worked, and provided the basis for a day's worth of discussion about solutions and bonding in Carlock's class.

Self-esteem, Miller likes to say, comes with achievement.

Are you getting static in your feedback?

“All you have to do is look into their faces to see who is not understanding. You've got to keep an open mind. If a student is not understanding your lesson you need to try to put yourself in that student's place.

How am I presenting to this child?
What is this child seeing or hearing from me?
How could I get this through to the child?
What must it feel like for a child to struggle to learn something?”

Brenda Goldstein
Jennifer Miley’s goal is to make Room 19 at Duveneck Elementary School a place of unconditional acceptance, warmth, security, and exciting learning. That’s quite different from what Miley experienced as a student: elementary school was her worst enemy.

Until sixth grade, when she was diagnosed with a learning disability, Miley spent her days filled with anger, frustration, tears, and feelings of failure.

To prevent her students from suffering as she did, Miley works hard to determine each student’s learning preferences. Perhaps most important, she presents lessons in a variety of ways to reach all students — she provides both written and oral instructions, and also may use objects, puzzles, game boards, poetry, and song.

“My goal is to let them know they are loved, and teach them to respect each other. I want to develop an atmosphere where they can feel comfortable taking risks,” Miley says.
Successful teachers say that teaching their students appropriate behavior and social skills is as important — and as crucial to learning — as presenting innovative academic lessons. When a classroom atmosphere is safe and respectful, that classroom is conducive to learning, teachers say. Students learn to listen to each other, to respect each other’s differences and contributions, to solve problems in non-violent ways, and to take responsibility for their actions. When students learn and practice good social skills, they are developing a set of tools that will help them throughout their entire educational experience — and throughout their lives.

The honorees shared these classroom management and social skills development strategies:

- Incorporating ‘classroom meetings’ into the regular work of the class
- Greeting students — teachers of older students greet students as a group at the start of the class period and teachers of young students greet students individually as they come through the door
- Teaching students about conflict-resolution processes and training them as mediators
- Sponsoring events that let students learn about each other outside the classroom
- Establishing partnerships with older students as role models for younger ones

“I hear what you’re saying...”

Jennifer Miley’s first and second grade students use their Classroom Meeting as a problem-solving and conflict-resolution tool. Three times a week for 20 minutes a session, students explore disagreements they have been unable to resolve on their own. “The students are encouraged to be open and honest and share personal thoughts and feelings,” Miley says. “They learn to respect each other.”
The Classroom Meeting works like this:

A student who has an issue to resolve writes her or his name on the Classroom Meeting clipboard. As many as ten issues may accumulate between meetings. With the class sitting in a circle on the floor, a student leader takes the clipboard, calls the first student's name, and asks, 'What happened?'

The student states the problem, usually opening with an 'I statement,' an expression of feeling about another person's behavior, such as 'I feel bad when Susie takes a pencil out of my desk without asking me.' The second student speaks, retelling what the first speaker said to show that he or she has heard the issue from the other person's perspective. This done, the second speaker tells the other side of the story. The first speaker tells what she or he heard the second one say.

The student leader then prompts problem-solving by asking, 'Well, what could you have done differently?' and 'If this happens again, how are you going to work it out?' The students trade ideas until they agree on a solution. If the process bogs down, Miley or others in the circle may suggest remedies.

Colleagues who teach higher grades tell Miley that her former students use the problem-solving, active-listening strategy in later years.
independent of a class meeting. Parents say they have created family meetings at their children's request — based on the classroom model. "The process is more than just resolving conflict, talking out problems," Miley says. "It's being a mini-community and solving whole-class issues, as well as interpersonal issues or arguments among one, two, or three students."

**Behavior is a choice**

Miley and teaching teammates Brenda Goldstein and Vonneke Miller greet each student every morning. The strategy, in part, lets them set the tone for learning by allowing them to harness the energy flowing into the room. Goldstein and Miller want their sixth grade students focused on the day's work the moment they take their seats. With students lined up outside the classroom door, they greet each one. They brief the students on the day's agenda, also written on the board inside, and explain their expectations for students' progress on the day's assignment.

Once the instructions are finished, the teachers let the students enter the room quietly. No loud talking. No running. No climbing over or around chairs and tables. "Behavior is a choice and you have to set standards and expectations for students," Goldstein says.

**Go tell it on the mountain**

O vernight trips into the great outdoors provide rare treats for teachers and students to see each other in a new light, away from classroom personas. And they give students another chance to form bonds that transcend social, economic, and cultural differences.

There's no question that taking whole classes of students on overnight trips is a huge expense. San Francisco Community School, however, places such a premium on community-building that all students go camping twice a year. Peggy Carlock sponsors a trip to snow country for her Albany High School chemistry club. For some students, a camping trip is their first real adventure outside the inner-city neighborhood, their first exposure to nature, and their first chance to enjoy other students' company. "The teachers make the kids feel like kids, number one. They encourage them to forget about what's going on down the mountain," says parent Vanessa Oats, who has been a chaperone on trips.

"We once had a group of students running around during a school tour. The children burst into the room talking and playing during a class, their parents watching. We said, you will go back outside. You will line up and you will come in quietly." And you know what? They did.

Now, was it uncomfortable for the parents standing there allowing their kids to act like this? We have high expectations of behavior. Discipline is first. It has to be.”

Brenda Goldstein
One of Peggy Carlock's more widely known innovations to boost science learning is a statewide competition called the Chemathon, Bio-Chemathon, and Physics-athon, eight hours of non-stop problem solving in chemistry, biology, and physics.

Between 1,500 and 2,000 students annually test their knowledge and skills at 70 exam, experiment, or learning work stations. All tests and activities are self-paced. Students may register in seven divisions to compete for trophies, which are awarded to all who score the required point total.

Begun in 1986 as the Chemathon, the competition emphasizes mastery of material. Tutoring is offered, and the event provides a great warm-up for students preparing to take the SAT II (formerly the achievement test), advanced placement exams, and final exams.

The event also features opportunities for new learning at more than 30 experiment and activity stations. Ever squeezed milk from a peanut? Stop by the Chemathon to learn how George Washington Carver did it.
Resolving conflict, don't ignore it

Teaching students alternative dispute resolution practices has become a primary strategy schools use to deal with conflict. Typically, districts or schools provide professional development opportunities in conflict resolution for teachers, and then follow it up with training for students. Older students are taught to mediate conflict among peers. The results can be significant: even students who dislike each other learn to work together. More important, Jane Risk notes, “You see a lot of kids forming really close, lasting friendships.”

Student to student

Carlock and Risk each have established partnerships in which their older students serve as role models for younger students. Carlock’s high school chemistry students, for example, teach science concepts and experiments to elementary-school students. Carlock says this type of project increases self-esteem and has improved the performance of some students who had been under-achieving in her classes. Mentoring also builds a sense of community. “The younger students burst out with ‘I feel like a real scientist! I can’t wait to get up to the high school!’” Carlock says. “The older student exhibits the first twinge of pride over her young charge’s accomplishments and the exhilaration of forming teacher-student bonds.”

Constructive instruction

Jane Risk thoroughly enjoys teaching multi-age, multi-ability classes at the San Francisco Community School. It keeps her on her toes in search of challenging material and exciting ideas to add to her repertoire of instructional strategies. Risk has a classroom of students with a range of learning preferences: one-third of the school’s students have been diagnosed with learning disabilities, several have severe learning problems, and many are economically disadvantaged. Despite the different circumstances of her students, Risk has high expectations for all of them.
She and the other TeachEach honorees have spent long hours thinking about how to lead their classes and prepare lessons. In analyzing the experiences and practices of the TeachEach honorees, four distinct areas of effective instructional strategies emerge. They are:

- **Organization and Presentation: engaging students**
- **Discussion: reinforcing lessons**
- **Assessment: gauging comprehension**
- **Group and Team Work: providing support**

These are, of course, just a sample of instructional approaches — there are scores of them. Yet in interviews with the honorees, these ideas emerged again and again. While these four areas are offered as examples and discussed at length below, it's important to remember that teachers have to learn what works best for them and their students. As Peggy Carlock points out, strategies that work for one teacher in one setting may not work for others in other settings.

**Organization and presentation: engaging students**

For Jennifer Miley and teaching teammates Vonneke Miller and Brenda Goldstein, the first rule of an effective presentation is to make sure students have a road map to follow for what will happen during the course of a day or a project. These teachers prime students for learning by writing the day’s agenda on the chalkboard to summarize key activities and lessons. Miller and Goldstein also have students write the agenda in their own journals, which gives each of them a reference record for later study or test preparation.

When Miley introduces new concepts, she clusters her first and second grade students on the floor around her; by doing this, she moves them away from work tables where there are too many tempting distractions.

A key part of presentation — especially for new projects, concepts or assignments — is to make sure the information is accessible to a variety of learners. This means writing instructions or information, talking through concepts, and using objects or props. Using a variety of
Like the scientist proving hypotheses in the lab, Peggy Carlock fine tunes classroom practices and strategies using trial and error. She's willing to attempt creative and innovative strategies, and she's flexible about tailoring them to meet students' needs. So far, her method has worked. She's seeing exemplary work in chemistry by growing numbers of students with varied educational and sociocultural backgrounds.

One of her long-term goals is to entice greater numbers of high-achieving science and mathematics students into the ranks of chemistry teachers. Carlock is convinced more students will consider chemistry teaching careers if they experience meaningful science all the way through school. “I’m designing communities of practice for communities of learners,” she says.

Carlock outlines her ideas about effective teaching in “Reciprocity: The Essence of Community, Meaningful Science Learning and Identity, her doctoral dissertation from the University of California at Berkeley.”
EXTRA CREDIT

Peggy Carlock routinely gives extra credit to students who help grade homework, class assignments, and tests — even to students who have been getting D and C grades.

"There's something to be learned by looking at all the permutations of mistakes that can happen. When kids are done with an activity like that they say, 'Wow, I really know this stuff now.' They can explain the material to others. They won't forget it, and they're set for the final. These are activities that create a sense of permanence in the learning, rather than short term, rote memory stuff."

Techniques is crucial, especially at the beginning the honorees say, because it ensures that all students are engaged in the lesson and get off to a positive start. "When you present lessons you've got to think about how to boldface key words, underline what the directions ask for, even consider the font you're using — is it large enough for the students to read?" Goldstein asks.

Another technique is to express information with a flair, using humor, metaphors, song, and poetry. "We want them to remember what we say," Miller says, going on to describe Earth's mantle and crust as "hot boiling chili with crackers on top." Peggy Carlock has fortified her presentation strategies by soliciting student input. Carlock explains what needs to be accomplished by a particular lesson, and then invites her students to help her design an effective presentation.

Discussion: reinforcing lessons

Once a lesson, idea or concept is presented, how do teachers make sure students are getting it? Risk and Carlock use a variety of discussion forums to clarify and reinforce the material they present. Honorees say that facilitating conversations among students has
many benefits: it allows students to digest information in different words — their own — which strengthens comprehension and retention. Discussions are also a way for teachers to get feedback on how they have presented material.

Perhaps most important, discussion helps students develop crucial social and interpersonal skills — giving young people an opportunity to practice the way they speak, listen, and express ideas. Here are some ways TeachEach honorees have used discussion as a teaching strategy:

STRATEGY: RECORD AND REPORT. Students work in groups to discuss material. Each group chooses a recorder to write down ideas and a second person to report a summary of the discussion back to the full class.

WHY IT WORKS: Many students who are unwilling to raise their hands in front of the whole class — because they are afraid somebody will make fun of them or that they will give the wrong answer — are willing to talk in a small group. This method also reinforces ideas brought up in lectures or readings.

STRATEGY: FISHBOWL. Five or six volunteers bring their chairs to the middle of the room for a discussion. After they have had ten minutes or so to debate, students outside the circle get a chance to respond to what they have heard.

WHY IT WORKS: This process helps the teacher maintain control when many students have really strong ideas about a controversial topic or a proposed action. It also helps students learn how to articulate concepts in conversational language, and encourages good interviewing and listening skills.

STRATEGY: CIVIL DEBATES. One student stands up to start a debate or discussion. The person outlines an opinion or writes it on the board, and then selects the next person to speak or write. The students keep selecting new speakers until everyone has had a chance.

WHY IT WORKS: Students learn how to listen to each other and they learn how to disagree without being disagreeable. Students also practice public speaking in a comfortable environment.

Assessment: gauging comprehension

A discussion group is just one way teachers monitor their students' comprehension and progress. In addition to monitoring conversations among students after new concepts...
are introduced, Jane Risk gauges learning by:

Assigning short, in-class exercises
Talking to students who have difficulty
Assigning same-night homework about the day's new lesson

Honorees also use tests to gauge learning. Risk and Carlock, for example, use teacher-designed tests regularly throughout the year. Their tests are never timed — students are allowed to continue testing during lunch and recess. They also permit students to re-take tests on which they do poorly; in these cases, teachers create a new test with similar material. Carlock, Miller and Goldstein let their students know exactly what information is to be tested. They want students to talk about test material because they believe this will reinforce learning. Miller and Goldstein permit students to use notes for tests and calculators for mathematics work. Risk and Carlock are amenable to interviewing students who have difficulty writing. "A lot more learning goes on if you spend more time on fewer things and really go in-depth," says Risk, who often bases subsequent lessons on misconceptions that arise.

Group and team work: providing support

Each of the honorees utilize group and team work to enhance and support learning. Groups, these teachers say, encourage students to help one another — though they are careful to prevent those who are struggling from overburdening their classmates. All of the honorees attempt to use groups to instill responsibility and accountability for success. Small groups also allow students to share information and support each other in understanding concepts on a peer level. When students discuss a concept or issue, the learning is reinforced for the student who is speaking and the students who are listening.

But the more important point about groups, teachers say, is that working in teams creates a sense of united purpose. On a major project, for example, Miller and Goldstein have students create and share resumes with each other. The students self-select into teams, "hiring" each other based on skills and experience. Group members have different assignments, and they all count on each other for success. In Miller and Goldstein's class, students are eligible for promotions — and vulnerable to demotions — if they let the others down. In the real world,
I came out of class knowing that if I don't understand something I have to find a way to understand. I can't just go, 'I don't know, forget about it.'

I rely a lot on my friends now to help me, which I didn't do before. I think that's one of the main things I pulled from [Peggy Carlock's] class, being able to learn on my own, but also being able to take information I hear around me and put it into my own way of learning.

Andres Powers
1997 Graduate
Albany High School
One is tempted to cast Jane Risk's teaching philosophy as a variation of the Golden Rule: present new and exciting information to students as you would have others present new and exciting information to you.

Risk is always searching for innovative ways to convey ideas, and she takes numerous courses and workshops to learn about new materials, technologies, and techniques. With 25 years teaching experience, Risk frequently is called upon as a resource for colleagues.

She is a designated mathematics teacher at San Francisco Community School, and she has strong interests in language arts, science, and technology. To know Risk is to truly know a life-long learner.

"I personally do not like teaching the same thing the same way, again and again," she says. "It would be very boring for me and the students would lose their spark. So I'm constantly changing what I am doing. Having new ideas and new challenges is very important to me."
most of us do not work in a small corner by ourselves,” Jane Risk says. “We have to learn to get along with other people. Usually, I try to have the students sitting next to somebody with whom I feel they can work well. Or I’ll have two students who can work together grouped with a third who is struggling and whom they can help. Students get ideas from each other and learn from each other’s strengths, and learn how to relate to one another.”

A MEASURE OF LEARNING

So, you’ve just attended a couple of dynamic workshops during the summer to study new techniques and collect new material. You followed up by working with colleagues to design a challenging, standards-based, relevant learning program for your students. You’re so excited to teach you can hardly wait for school to begin. Let’s cut to the bottom line. You may have an innovative program — but how do you know if students will really learn and progress? How can you measure learning?

The TeachEach honorees ask themselves these questions — among others — when it comes to measuring progress:

What evidence do I need to collect to prove that my program is working?

What outcomes should I be looking for?

How will I evaluate my own performance as a teacher?

How will I evaluate the progress of the diverse range of learners in my class and what evidence will I have to show that each student’s knowledge advanced?

How can I predict if they will be able to apply what they’ve learned?

Results. Everyone’s interested in results. Parents. Universities and colleges. Potential employers. School and district administrators. Local and state policy makers. They all want to see proof that students are learning.

Our honorees all have different methods for showing how their students achieve. First, as part of their planning process at the beginning of the year, these teachers decide
It was apparent to her high school mathematics teacher that freshman Lachelle Oats had a solid grounding in math. She was handling tough assignments easily, while classmates were struggling.

Lachelle felt proud when the teacher complimented her. She knew exactly whom to thank: her mother, Vanessa, who pushed her to complete math workbooks each summer, and her middle school math teacher, Jane Risk, who challenged her with high standards and tough goals.

Risk, for example, encouraged Lachelle to join the MATHCOUNTS team, an extra-curricular coaching program that features a challenging series of competitions designed to stimulate student interest and achievement in mathematics.

"She really helped me," Lachelle says. "In high school we were really going fast. I was just so happy because I passed my math, and aced my finals. I called Jane to thank her, and she said, 'No, Lachelle, you did it all yourself.'"
what information they need to collect to track student's learning. From the wide variety of indicators they choose from to measure progress, here's a sample of their strategies:

First and second grade teacher Jennifer Miley monitors students' performance over the course of the school year by accumulating notes on student's oral fluency in reading and by creating portfolios of students' actual work. The portfolios track students' level of understanding and proficiency in math, reading, spelling and writing.

From their performance-based, middle-school hydroponics classes, teammates Brenda Goldstein and Vonneke Miller have examples of the plants students grow, as well as records students keep to document the plants' growth under laboratory testing conditions.

Middle school teacher Jane Risk monitors learning through regularly administered tests, students' essays, and oral interviews.

Peggy Carlock likes to point to statistical data as proof of her students' progress, such as how many students performed well on state and national tests and in competitions. Carlock also measures progress by tracking the leadership roles her students take on — noting when students become peer teaching assistants or tutors.

**Punching the card every day**

Teachers who work to ensure each student's individual success generally agree that it is important to collect information on each student's learning. One of the keys to effective teaching is the ability to gauge where a student is on any given day, and then devise a strategy to help that student move forward. Our honorees collect both informal and formal information, and they set aside time to reflect on what they collect, especially after they introduce new concepts. "I reflect on the kids at the end of every day," Miley says. "Who did what today? Who missed the entire lesson? Who got it? Whom can I use as a mentor next time? Was I successful?"

Risk uses her reflection time to determine what, specifically, she will attempt to do the next day. In addition, she uses class discussions, daily class work, and homework to monitor understanding, and then bases subsequent lessons on whatever misconceptions she notes. She also has her students reflect, in conversations or a short essay, and uses their work as another opportunity to collect information. Risk asks the students what patterns they
noticed and even what shortcuts they discovered. The next day she opens a discussion about
the previous day, to get students thinking about the information again, before they proceed
to the next lesson. Carlock, who has peer teaching assistants (TAs) working with classmates in
chemistry labs, requires TAs to leave a journal entry in the computer for her after each lab.
She asks the TAs to state what the lab students covered and indicate which students seemed
to understand the lesson and which students had problems.

Keeping track

A ll of the honorees have goals for the amount of information they want to cover in their
courses, but each one is prepared to sacrifice quantity for quality. They rely on continuous
monitoring to gauge and regulate the pace of learning.

One of Miley’s favorite tools is conducting a ‘running record’ of
performance. When teaching reading, Miley sets up time to hear
each student read, and she listens for patterns of mistakes. She will then
teach that student a new strategy in an effort to isolate and address that
student’s specific reading problem. As part of a challenge-based, integrated-
subject project on running a business, Risk gave students $5,000 in pretend
money and had them purchase stocks. The students then followed the
daily quotations in the newspaper and charted them on a line graph over
time. The exercise was in fractions, decimals, percentages, and graphing.
Risk used the project to observe students’ grasp of math concepts.

What they know, before and after

O ne way to show progress over the course of a term, or a project, is the pre- and post-term
assessment. At the start of a lesson, for example, the teacher will administer a series of
questions to determine what students know about the topic, or ask them to write an essay
describing what they know. They administer the same test or essay at the end of the project
and compare the two samples of student work. These teachers also are interested in their
own performance and effectiveness, and they regularly collect information to inform self-
evaluations. Carlock, Risk, Goldstein and Miller all solicit student feedback about their teaching
and fine tune teaching strategies as necessary during the course of a year in response to what they hear.

The goal, these teachers say, is not just for their students to perform at their personal best; as teachers, they must also perform at their personal best. For students and teachers alike, this requires monitoring and evaluation, flexibility and risk-taking, and a willingness to learn. This, the teachers agree, is a solid formula for ensuring results.

The Charles and Helen Schwab Foundation was founded in 1987 to improve the lives of students with learning differences. In pursuit of this mission, TeachEach is one of several important programs supported by the Foundation. The Parents & Educators Resource Center (PERC) is another.

PERC equips parents, teachers and other professionals with the resources they need to improve the lives of students with learning differences.

The Center offers a variety of resources for members near and far, including a quarterly publication called LD Matters, which is filled with strategies and ideas for reaching students with learning differences. Another resource is Bridges To Reading, a kit of first step strategies for parents who suspect their child may have a reading problem.

To access a variety of resources about learning differences, call PERC at 800/471-9545 or check out PERC's web site: www.perc-schwabfdn.org
**TEACHEACH RESOURCE LIST**

Teaching strategies that help reach students with learning differences can be a powerful tool for ensuring that all students succeed. Below is a list of resources that are helpful for parents and educators seeking to 'teach each' student.

**WEB SITES**

Parents & Educators Resource Center: http://www.perc-schwabfdn.org
LD OnLine: http://www.ldonline.org

**KITS**

**Bridges To Reading** by Parents & Educators Resource Center

Helps parents identify, understand, and address reading problems. Includes eight booklets, national resources, and information on tutoring and Attention Deficit/Hyperactivity Disorder. Scholarship copies are available. To order: Bridges To Reading, P.O. Box 389, Brisbane, CA 94005-0389, 800/471-9545, $20.00.

**BOOKS**

**Answers to ADD** by John Taylor

Explores answers to ADD, especially in terms of success in school. Stresses the importance of the student, teacher, and parent working together. To order: FACTR, P.O. Box 4326, Salem, OR 97302, 800/847-1233, $39.95.

**Educational Care** by Mel Levine

Identifies and describes common behaviors or phenomena that can appear in students at different ages and interfere with their learning, using case studies. To order: EPS, 31 Smith Place, Cambridge, MA 32138-1000, 800/225-5750, $35.00.
Learning to Learn by Carolyn Olivier & Rosemary F. Bowler

Gives guidelines for creating education programs tailored to individual needs and abilities. To order: Simon & Schuster, Inc., 1230 Avenue of the Americas, New York, NY 10020, 212/698-7000, $12.00.

No Easy Answers by Sally Smith

Outlines how to identify learning disabilities and how parents can work with educators. Discusses how to use television, the arts, and other innovative approaches as teaching tools. To order: Bantam Books, 1540 Broadway, New York, NY 10036, 212/354-6500, $9.95.

No One to Play With by Betty Osman & Henriette Blinder

Describes the problems children with learning disabilities face everyday, including getting along with others and dealing with family crises. To order: Academic Therapy Publications, 20 Commercial Blvd., Novato, CA 94949, 415/883-3314, $10.00.

The Other Sixteen Hours: The Social & Emotional Problems of Dyslexia by the International Dyslexia Association

Discusses the frustrations and self-esteem problems of individuals with dyslexia. To order: IDA, 8600 LaSalle Road, Chester Bldg., Suite 382, Baltimore, MD 21286-2044, 410/296-0232, $5.00.

When Learning is Tough by Cynthia Roby

Gives children's descriptions of their disabilities and how they have learned to cope with them. To order: Albert Whitman & Co., 6340 Oakton St., Morton Grove, IL 60053-2723, 800/255-7675, $13.95.
VIDEO TAPES

**Every Child Is Learning** by National Center for Learning Disabilities

Helps parents, teachers, and early care providers recognize early warning signs of language and learning disabilities. To order: NCLD, 381 Park Avenue South, Ste. 1420, New York, NY 10016, 212/545-7510, $89.95.

**Im Not Stupid** by Learning Disabilities Association of America

Explores the mystery and exposes myths of learning disabilities. Gives examples of those who have successfully overcome their learning disabilities; includes interviews and actual classroom scenes. To order: LDA, 4156 Library Road, Pittsburgh, PA, 15234-1349, 412/341-1515, $22.00.

**Last One Picked, First One Picked On** by Rick Lavoie

Describes how parents and teachers can help children overcome social difficulties. To order: PBS Video, 1320 Braddock Place, Alexandria, VA 22314-1698, 800/344-3337, $49.95.

**Understanding Learning Disabilities: How Difficult Can This Be?**

by Rick Lavoie

Allows viewers to experience the same frustration, anxiety, and tension that children with learning disabilities face in their daily lives. To order: PBS Video, 1320 Braddock Place, Alexandria, VA 22314-1698, 800/344-3337, $49.95.

AUDIO TAPES

**Reaching Minds** by Mel Levine

Helps parents understand the signals children send when they are struggling to keep up in school and offers solution-based advice and strategies. To order: All Kinds of Minds Fulfillment Center, P.O. Box 8135, Greensboro, NC 27419, 800/720-2566, $99.95 for a one-year, monthly subscription.

This list was compiled by the staff of the Parents & Educators Resource Center, a program of the Charles & Helen Schwab Foundation.
Survey

We appreciate your feedback, please take a moment to answer the following short questions. When you include your name and mailing address, we will mail you **50 Fun Ways to Improve Reading**, a recipe booklet of reading strategies. All addresses and responses will remain confidential.

Name ____________________________________________

Mailing Address _________________________________________

City __________________________ State ______ Zip ______

1. What grade level do you currently teach?
   ____ K-5   ____ 6-8   ____ 9-12   ____ other (please specify)
   If you are not a teacher, please specify your occupation: ____________________________

2. If applicable, in what kind of school do you teach?
   ____ public   ____ private   ____ parochial   ____ other (please specify)

3. How many years have you been teaching?
   ____ 1-4   ____ 5-10   ____ 11-20   ____ over 20

4. How did you receive this booklet?
   ____ 800 number   ____ unsolicited in the mail   ____ other (please specify)

5. Please circle the appropriate number on the scale below to indicate how helpful this booklet is:
   Not at all informative  _______ 1  ______ 2  ______ 3  ______ 4  ______ 5  Extremely informative

6. Which of the following would you consider to be improvements to this booklet? (Check all that apply)
   ______ more / less (circle one) narrative about teaching strategies
   ______ more / fewer (circle one) photographs of classrooms and activities
   ______ more / fewer (circle one) quotes from the teachers
   ______ more / fewer (circle one) educational resources
   ______ more / fewer (circle one) pull out lists of teaching strategies
   ______ inclusion of case studies of students’ progress
   ______ inclusion of student input

7. With your improvements, how much would you be willing to pay for a similar booklet?
   ______ $20-25   ______ $15-20   ______ $10-15   ______ $0-5

8. Please feel free to write additional comments about the booklet below.

_________________________________________________________________________________________

Thank you for your time.
There are so many different ways to learn.

How many different ways are there to teach?
I. DOCUMENT IDENTIFICATION:

Title: TEACH EACH: CLASSROOM STRATEGIES TO REACH ALL LEARNERS

Author(s): CHARLES AND HELEN SCHWARZ FOUNDATION

Corporate Source: CHARLES AND HELEN SCHWARZ FOUNDATION

Publication Date: 1997

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