In 2004, Houston A+ Challenge established the Teacher as Researcher Grant to enable educators to expand and develop their work, conduct research inquiries, and make their work public. Seven, two-year, $10,000 grants were awarded in May of that year. Five of these grants are still active. The research proposals focused on taking best practices in literacy, mathematics, and/or fine arts to the next level. Applicants applied as Critical Friends Groups (CFGs) of at least five people.

A Critical Friends Group is a professional learning community consisting of approximately 8-12 educators who come together voluntarily at least once a month for about 2 hours. Group members are committed to improving their practice through collaborative learning.

The five projects address a comprehensive range of student needs at elementary, middle and high schools, tackling questions dealing with literacy, math and fine arts. Several grant projects are investigating how to teach some of the Houston area’s neediest students, including English language learners and special education students struggling with mandated standardized tests. According to Michele Pola, Ed.D., executive director of Houston A+ Challenge, “Taking the time and having the resources to look at the data on students and then adjust instructional techniques accordingly is critical for a good teacher.”

Results from the grants after a year and one-half have been encouraging. Donna Reid, a CFG coach who also is a consultant for Houston A+ Challenge, has supervised the inquiry groups and conducted ongoing support meetings for the groups. Her article, “Leavening the Dough: Growing Quality Teaching by Supporting CFGs,” details these early results and the importance of CFGs in the inquiries. Following are some of the results:

- Can computer programming increase mastery of algebraic computation skills? Low algebra

High school teacher Karen North and middle school teacher Pamela Ossorio believe they have a recipe for student success. While the average passing rate for high school freshmen on the Texas standardized test in math is 45 percent in Houston ISD, all of North’s students passed in 2005.

Last year, North and Ossorio were awarded a two-year Teacher as Researcher grant from Houston A+ Challenge to explore the question of whether computer programming skills can increase mastery of algebraic computation skills.

“We designed the grants to enable educators to collaborate as a group to deepen their work, to conduct research inquiries about their practice, and to make their work public,” said Michele Pola, Ed.D., executive director of Houston A+ Challenge.

North used the funds to design, then implement, a pilot algebra and computer science class. All of her students, who had struggled with algebra concepts in middle school, passed...
Recent news coverage about school fights and student protests point out the value of the personal touch in our schools through adult advocacy.

No one disputes that it is important that schools are secure places for us to send our children to learn. But there is a difference between security and safety. Webster’s Dictionary defines “security” as “freedom from danger, harm or risk of loss.” Safety, on the other hand, is broader. It is “freedom from risk.”

Clearly, there can be no safety without security first. Being confident that you will not come to bodily harm by stepping inside the schoolhouse door is the undisputable first step. But schools need to be so much more.

It is the human relationship between adults and students that make schools a safe place for learning. “If you don’t care about kids’ lives,” says University of Chicago Professor William Ayers, a leader in research on teaching for social justice, “I don’t care how glorified your curriculum is.”

Adult advocacy is the concrete expression of this philosophy. It is the intentional personalization of the learning environment that provides long-term, caring adult relationships for all students. The adult advocate’s role is to personally ensure that the student is on track academically and that his or her social and emotional needs are met through communicating with, and, if necessary, referring the student to appropriate support staff for assistance.

What are the conditions and culture needed to put adult advocacy into place? Research shows it is most successful when it is developed as an integrated part of the school’s long-term plan. Time and resources need to be allocated to support teachers and students for meaningful experiences that lead to student success after graduation. And finally, successful adult advocacies are characterized by strong campus leadership and accountability for student learning.

Advocacy is about relationships and is recognized as an integral part of a student’s school experience. There are several successful models around the region from which to learn. And, each of us can play our own role in advocating for young people.

In the News

Operation School Work

The Houston A+ Challenge partnered with Communities in Schools Houston, the Houston Mayor’s office, the Houston-Galveston Area Council and the WorkSource to coordinate employment opportunities for Katrina evacuees in several Houston area school districts. Through this initiative, called Operation School Work, educators who relocated to the Houston area as a result of Hurricane Katrina were hired to provide tutorials to student evacuees. In January, approximately 80 of these CIS Tutor Advocates received training on advocacy through a collaborative effort of Houston A+ and Houston ISD. This training will enhance their support of students from Louisiana.

Yates’ Student Photography

The success of the annual Eye on Third Ward photography exhibition, jointly produced by the Museum of Fine Arts, Houston and Yates High School teacher Ray Carrington III, has inspired both Houston ISD, which will begin to offer photography classes to elementary and middle schools in the Yates feeder pattern, and educators in Poland, who have instituted a similar project called Eye on Krakow. Work from this year's Eye on Third Ward, on exhibition at MFAH through May 29, will be part of an October exhibition in Washington, D.C., at the Association of Teacher Educators Second National Congress on Teacher Education. Houston A+ arranged for the work to be included.
The new Houston Academy of International Studies is enrolling 100 eighth-graders to start as freshmen in August 2006 as the Houston Independent School District makes its next significant move to prepare students for success in college and the workplace.

The high school, a joint effort between Houston ISD, The Houston A+ Challenge, the Asia Society, and Houston Community College System (HCCS), will focus on world cultures and will emphasize a personalized learning environment. Each student will be assigned to a staff advisor. This school will offer students an intimate high school setting with a low student-to-teacher ratio, individualized attention, and a total enrollment of no more than 400 pupils (by 2009).

The Academy of International Studies, which will be located on the HCCS campus in downtown Houston, is one of a number of Houston ISD high schools in which students can take dual-credit courses and transfer credits to college even before they graduate. In addition to Houston ISD’s core curriculum, students will complete a global studies program. They will take four years of at least one foreign language, including Mandarin Chinese and Spanish. Students also will have exciting opportunities to travel abroad and participate in internships with international businesses.

“For our young people to get to where they want to go in this world, they need a college education,” said Houston ISD Superintendent Abelardo Saavedra. “Our job at HISD is to graduate every student and help them get into college and succeed. This new high school will help them gain an understanding of international issues that are so critical for success in the global business environment we now are in.”

Asia Society, supported by a generous grant from the Bill & Melinda Gates Foundation, has established the first national network of urban secondary schools devoted to international studies and world languages. The model schools will provide a rigorous, engaging education to prepare them for college, the changing workforce, and the contemporary world.

“Asia Society is proud to embark on this exciting new partnership with Houston, an international city that is a perfect match for an international studies high school,” said Dr. Anthony Jackson, Asia Society.

In Houston, Asia Society is funding a one-year planning grant worth $55,000 and anticipates donating up to $400,000 in direct and indirect costs over a three-year period to open the school. Houston A+ Challenge will further contribute up to $600,000 in grants and indirect costs through the support of the Carnegie Corporation of New York, the Annenberg Foundation and the Brown Foundation.

The awards are part of the Houston ISD strategy in partnership with Houston A+ Challenge to create a system of high schools to provide students with a variety of options to earn a degree. These options include early college schools, small high schools, magnet schools, International Baccalaureate schools, comprehensive schools, a college preparatory school, and a newcomer’s school, in addition to the international studies high school.
skills are often a barrier to success in education and the workplace. The first group took a novel approach to increase algebra skills for all students. Building on past experiences teaching algebra and computer programming, they incorporated computer programming exercises into the algebra curriculum.

(See sidebar on page 1 for details.)

◆ How can social studies teachers improve the academic achievement of students who are non-native speakers of English? A group at Johnston Middle School addressed the achievement gap for English language learners in passing rates on the 8th Grade Social Studies Texas Assessment of Knowledge and Skills (TAKS). The social studies department at Johnston formed a CFG to encourage collaboration, look at data and examine student work. According to Peggy Given, department chair, “The challenge was to present on-level content in a manner in which English language learners could actively participate and be successful.”

Grant funds supported professional development for six teachers, who were introduced to research on language acquisition and provided with practical classroom strategies based on this research.

“Teachers immediately used these strategies in their classrooms and shared what they had learned with their colleagues. Student participation and success grew as these strategies permeated the entire school,” Given reported.

◆ How can we better work with special populations such as severely handicapped, resource, content mastery, and English as a Second Language students to increase their literacy?

Because of changes in state and national education policy, students with labels such as “resource,” “content mastery” and English as a Second Language are expected to perform on standardized tests that they were previously exempt from. Members of the third group, an already-established CFG at Eisenhower High School in Aldine ISD, researched ways to improve the quality of teaching and learning for these special populations in all of their classes.

According to lead researcher and art teacher Michaelann Kelley, “The group collectively read articles and research books on classroom instruction. This foundation of a common vision and language helped in taking a hard look at each team member’s practice and providing honest and constructive feedback for meeting the needs of the students. . . . We examined our teaching methods and the students’ learning needs of the students. . . . We examined our practice and providing honest and constructive feedback for meeting the needs of the students. . . . We examined our teaching methods and the students’ learning

Using student work, teacher work and reflective journals. The use of reflective journals proved to be a huge benefit in focusing on what was working for each teacher, so that we could then build on that strength in the classroom.”

◆ How do teachers and administrators know that their individual practice impacts learning in aesthetics and literacy? The fourth group focused on the use of portfolios as a way to produce accountability based on individual teacher practice. This CFG, established in 1998, includes teachers and administrators from two school districts, a university professor, and employees of centers and partnerships that are involved in school reform. With the desire of the lead researcher, Mary Matthews, to re-establish CFGs on Best Elementary campus in Alief ISD.

(See sidebar on page 5 for more.) In each case, the grant provided teachers collaboration and time for reflection, which allowed them to share their knowledge and experience and encouraged them to integrate these improved practices into their teaching. Being a part of the Teacher as Researcher CFGs also inspired participants to pursue advanced coursework and to reach out to their peers, presenting their findings at seminars and conferences. These habits of focus, collaboration and reflection that teachers experienced in their inquiry groups can be passed on to students. Assignments that require collaboration and portfolios that develop skills in reflection help students to become more engaged in their work and lead to improved student achievement. The grant continues this year.

Links to publications and presentations by Teacher as Researcher Grant recipients can be found on the Houston A+ Challenge website: www.houstonaplus.org
Betty Roberts Best Learning Community is located in Alief ISD, an urban area with many characteristics of an inner city. The once vibrant, middle-class southwest Houston neighborhood has become an area of concentrated poverty, unemployment, lower education levels, poor housing, substance abuse and crime.

In 1999, Best Elementary formed a partnership with E.A. Olle Middle School and became the Best/Olle Learning Community in order to apply for a Lamplighter Grant from the Houston Annenberg Challenge (now the Houston A+ Challenge). During the partnership, the three Annenberg imperatives that address size, isolation, and teacher learning were embedded into both schools’ cultures.

Best Elementary targeted teacher learning as a school-wide reform effort. During this time staff development and Critical Friends Groups (CFGs) were embedded into the school day.

Challenges the school faced included students with behavior problems, a high student mobility rate, lack of parental involvement and an abundance of programs that made it difficult to properly monitor and ensure success. Despite these challenges, Best was able to maintain acceptable scoring on state tests.

THE DETOUR

In January of 2003, the principal of Best Elementary left the school, a move that divided the staff. In addition, the CFGs ceased.

To stabilize the environment, the new principal of Best, who came from Olle Middle School, surveyed the CFG coaches and staff. The principal worked hard to build a relationship with the staff, students and parents.

By the end of that first semester, the new principal was still faced with a high staff turnover as well as challenging scores on state tests.

THE U TURN

To turn things around, the new principal recruited staff with the understanding that they would become a part of a professional learning community. All staff became a part of cohort groups that empowered their voices in school policies and procedures.

Group Research... continued on page 7

the Texas Assessment of Knowledge and Skills math accountability test last year.

In 2002, Ossorio, a middle school teacher at The Rice School/La Escuela Rice, saw North present on DrScheme, a simple programming language that North describes as “computer science for the liberal arts student.” According to North, “Students with no background in computer science can master problem solving methods and programming basics.”

Ossorio, whose technology students had shown some resistance to learning to program math formulas, observed North using drawing and graphics to reinforce math concepts. Inspired by this new way for her kids to connect with computer programming, Ossorio went back to her 7th and 8th grade classes, tried the techniques in class, and observed immediate results in student motivation and engagement.

Beginning with a simple graphic design made of squares on graph paper, students are guided to use logical thinking and problem solving to write a computer program whose output is a reproduction of the design. When other shape elements—circles, filled circles, lines and rectangles—are added, the designs and the programs become more complex.

“There are many challenges to teaching programming in middle school,” said Ossorio. “One is that many 8th grade students are still functioning in the concrete operational stage of cognitive development. Many students are not interested in working hard in their elective class, which they expect to be fun and games.” Ossorio is teaching math classes this year, and using DrScheme with her 8th grade algebra class.

“There is a high connection between programming and algebraic thinking,” said Ossorio.

With the support of the Teacher as Researcher grant, Ossorio and North are collaborating to develop problem-solving tools available online that support both computer science and math curricula. “We want to develop activities that can be used in math and other technology-rich classes to reinforce algebraic thinking skills,” Ossorio said. North adds, “We are developing problem-solving and design tools to help teachers prepare students for college and SAT level questions. Our goal is commended on TAKS, not just passing.”

North views an understanding of math as farther-reaching than the classroom. “Not just passing Algebra I, but mastery of it, which includes problem-solving skills, improves all areas. Otherwise, they’re dropping out when they become juniors because they are stuck with Algebra II and they can’t get though it. I try to develop something to reach kids who don’t understand math.”

For more information, contact Ms. North at knorth@houstonisd.org or Ms. Ossorio at possorio@houstonisd.org. Ms. North’s lessons are posted at www.knorth.info and Ms. Ossorio’s at possorio.com.
Seventeen Houston ISD elementary schools now have mathematics specialists thanks to the K-5 Mathematics Initiative. The initiative, a partnership of ExxonMobil, Houston A+ Challenge and Houston ISD, uses a coaching model to further teacher understanding of mathematics to improve student achievement.

“Educators are foolish if they think that ‘buying programs’ will improve a child’s ability to be successful in mathematics,” said Scott Van Beck, Houston ISD West Regional Superintendent. “What works for students to learn and enjoy mathematics is the development of human potential where teachers begin working together to improve their teaching abilities and their students’ learning outcomes. The ExxonMobil K-5 Math Specialist Initiative develops coaches on the elementary campus who, in turn, train classroom teachers to become better teachers of math. Building capacity is the name of the game with this program, and teachers and students are the winners. It is one of the ‘beacon’ programs in the West Region of the Houston Independent School District, a part of HISD serving over 60 schools and nearly 59,000 students.”

West Region added six more schools to the initiative for the 2005-06 school year: Askew, Bonham, McNamara, Nef, Walnut Bend, and White elementary schools. They joined other West Region schools—Anderson, Benavidez, Braeburn, Ehro, Foerster, Fondren, Milne, Rodriguez, Shearn, Sutton, and Tinsley elementary schools—already part of the initiative.

Instituted in 2000 with five math specialists at eight schools, the initiative’s early results show improvement in the percentage of students passing the Texas Assessment of Knowledge and Skills (TAKS) at the project schools. Economically disadvantaged students at the initiative schools show marked improvement in test scores from 2004 to 2005. (See related story next page.) These promising results encouraged ExxonMobil to renew funding for the initiative for the 2006-2007 school year.

The goal of this initiative is for students to really understand mathematics—to make sense out of the numbers they see and have classroom opportunities to do more than just memorize math facts.

Using nationally recognized, research-based instruction strategies, each math specialist works with teachers and administrators at participating schools to provide instructional leadership and expertise in mathematics. Specialists are in classrooms on a daily basis, co-teaching mathematics lessons as well as working with children on mathematical concepts. According to Lance Menster, education manager for the West Region, “The math initiative offers professional development in real time in the classroom.”

Development of daily problem-solving journals is an example of how the network of math specialists can improve instruction. During the 2000-2001 school year, specialists were searching for a way to improve students’ problem-solving skills. A number of assessments had shown this skill area needed work.

The math specialists saw problem-solving journals when they visited the math coaches in Alief ISD during that year. Math Specialist Silvia Osuna introduced the two-page formatted journals to teachers at Sutton Elementary School soon afterward. For the next two years, Osuna and fellow Math Specialist Edwin Dubon worked with the teachers at Sutton to use and refine the journals, and in 2003-2004 Osuna developed the one-page format that has become the standard.

The journals were used during 2004 summer school classes at Sutton for students working below grade level in mathematics, with significant gains in student achievement evident at the end of the sessions. With these encouraging results, other initiative schools began using the journals, and in 2004-2005 Osuna and Dubon led the effort to prepare journals for each unit of study in grades 3, 4, and 5, in both Spanish and English. This year the group of math specialists, with the support of the grant, have worked together to develop similar journals for grades K, 1, and 2.

The journals contain mathematics applications problems and guide children through the steps to solve them:

- identifying known and unknown information
- choosing and naming the appropriate problem-solving strategy
- solving the problems
- explaining the reasonableness of their answer.

Each day has a math problem, and the process outlined on the page helps the student understand how to solve any problem. The daily problems are aligned with the district’s curriculum units and illustrate essential skills as defined by the Texas Essential Knowledge and Skills (TEKS).

The journals have proven to be a great tool, according to Menster. “This resource supports daily problem-solving,” he said. “It is connected to standards and created by our math

**K-5 Math . . . continued on next page**
The Exxon Mobil K-5 Math Initiative was introduced into eight schools in what is now the West Region of Houston ISD in 2000. Early results suggested improved performance on the Texas Assessment of Academic Skills (TAAS). Student performance on the more rigorous statewide assessment, Texas Assessment of Knowledge and Skills (TAKS) has been particularly encouraging, especially for economically disadvantaged students.

The chart above shows TAKS results in 2004 and 2005 for economically disadvantaged students in Houston ISD’s West Region elementary schools. Passing standards for TAKS have been phased in over three years according to a formula devised by the Texas Education Agency (TEA), with standards becoming progressively more rigorous from 2003 to 2005, when the panel-recommended standard was adopted. The standards for passing were 53 percent of questions answered correctly in 2003, 60 percent correct in 2004, and 68 percent correct in 2005.

The chart compares schools that are part of the math initiative to schools that are not yet participating in the initiative. The chart compares the two years on consistent standards, and shows at each level that the percentage of students meeting the standards increased at the initiative schools from 2004 to 2005, while the percent meeting standards at non-initiative schools stayed even or decreased. The set of bars on the far right show the change in performance using the actual applied standards.

K-5 Math... continued from previous page

specialists using curriculum resource documents. In the West region, we are now sharing these journals with all the schools, whether they have math specialists or not."

The K-5 Mathematics Initiative is extended from the classroom to the home by teaching parents lessons and concepts similar to those their children are learning. The participating schools hold Family Math Nights during the course of the school year where parents and students work collaboratively to learn math skills. At one school, Benavidez Elementary, parents worked with the math specialist to construct a wide selection of hands-on activities for use in workstations in K-2 classrooms. The workstation activities have become an effective part of the daily classroom routine, and teachers from other schools have observed and adopted the technique for their own classrooms.

Critical Friends Group Research... continued from page 4

In 2004, Mary Matthews joined the Best family as a technology specialist. She brought with her a two-year Teacher as Researcher grant from the Houston A+ Challenge, to incorporate and study the effect of CFGs on student achievement. This grant set up CFGs on campus and the coaches of these groups formed the inquiry group. The coaches met once a month outside the school day with a group of staff on campus to look at student work, study articles, share best practices, have text based discussions and bring dilemmas to the table.

Initially, 60 percent of the staff volunteered to be a part of a CFG.

By the end of the first year of the grant, several changes had occurred to improve the school's culture. The staff felt more open to discuss issues within their groups, giving teachers support and feedback on problems. Second, the teacher turnover rate was less than 5 percent. This helped to maintain consistency with teams. Teachers felt empowered in giving input to rules and procedures at school.

After one year of CFGs being reestablished at Best Elementary, the data showed that students of teachers in a CFG performed better on the district common assessment and state tests than students of teachers not involved in a CFG:

**KINDERGARTEN THRU 2nd GRADE**
(Based on reading levels assessed at the beginning / end of the 2004-2005 School year)

- 66 percent of students of teachers involved in a CFG are reading at grade level.
- 54 percent of students of teachers not involved in a CFG are reading at grade level.

**THIRD GRADE**
Reading / Math

- 71 percent / 50 percent of students of teachers involved in a CFG passed reading / math 2005 TAKS
- 63 percent / 43 percent of students of teachers not involved in a CFG passed reading / math 2005 TAKS.

**FOURTH GRADE**
Writing / Reading / Math

- 87 percent / 68 percent / 83 percent of students of teachers involved in a CFG passed writing / reading / math 2005 TAKS
- 77 percent / 65 percent / 66 percent of students of teachers not involved in a CFG passed writing / reading / math 2005 TAKS.

**YEAR TWO**

The CFG recruitment process was very successful for the second year of the grant. One hundred percent of the staff signed up for a CFG and at least 90 percent have committed to attending. Two additional coaches were added to accommodate the membership. This made a total of six groups on campus.

This article is excerpted from a longer report by Mary Matthews, entitled "Back On the Road: The power of Critical Friends Groups to Improve School Climate and Student Learning at an Urban Elementary School."
Calendar of Events

APRIL
6 Regional Senior Fellows
8 “Taking the Next Steps: Portfolios – Documenting Work (Part II)”
17, 22, 24, 29 Critical Friends Group New Coaches Spring Training (Part I)
24 New Visions in Leadership Academy Cohort Session
26 Parent Leadership Conference

MAY
1, 6, 8 Critical Friends Group New Coaches Spring Training (Part II)
5 New Visions in Leadership Academy Selection and Notification
10 Wachovia Action Lab: Fine Arts

JUNE
5-9 Teacher Externship Week
26 New Visions in Leadership Academy Celebration Dinner/ Recognition
27-29 New Visions in Leadership Academy Summer Institute

JULY
10-14 Critical Friends Group New Coaches Summer Training
25-26 Fondren Reforming Schools Summer Institute X

AUGUST
26 Houston ISD Reach Out to Dropouts Walk

Visit www.houstonaplus.org for details.