



History and Studies

Background

Bob and Kathy DeBoer founded A Chance To Grow (ACTG) in 1982 to share the effective therapies that helped their brain-injured daughter overcome extraordinary challenges. Located in northeast Minneapolis, ACTG is a nonprofit agency committed to the natural development of the whole child through educational, rehabilitative, and therapeutic programs and services. Today, ACTG has evolved into a professionally staffed educational and health care organization that helps *all* children, particularly those from disadvantaged backgrounds, prepare to learn and reach their highest potential.

In 1992, the DeBoers expanded their services by opening New Visions Academy (NVA), a school using ACTG's successful interventions. The focus of NVA was to prepare students to learn and develop the readiness skills that they had not acquired yet. Historically, most of the student population qualifies for free or reduced breakfast and lunch, and two-thirds are of minority races (primarily African American and Somali). Today, NVA functions as an independent charter school.

The success of ACTG's most popular intervention, the S.M.A.R.T. Curriculum, led to the founding of the Minnesota Learning Resource Center (MLRC) in July of 1999. Funding was approved by the state legislature to establish it as the agency's teacher-training institute that hosts workshops and mentors educators in all of ACTG's interventions that extend across the state and nation. **The MLRC's mission is to provide training and assistance to educators in the replication of brain stimulating methods and interventions designed by ACTG, and through that process, to establish a community of educators who view and understand children developmentally.** This is accomplished through the institute's team of professionals who train teachers in the educational workshops, and then provide follow-up, on-site mentoring, typically over a three-year period.

Simple, Affordable, and Replicable Learning Interventions

A Chance To Grow's early work with learning disabled and brain-injured children led to the discovery of learning interventions that could help *all* children do better in school and in life. The Minnesota Learning Resource Center promotes the use of these state-of-the-art brain development tools to maximize the potential of every child in school. The interventions are:

Stimulating Maturity through Accelerated Readiness Training (S.M.A.R.T.) - S.M.A.R.T. is the centerpiece program for schools that implement ACTG/MLRC interventions. It includes a variety of fun movement activities that stimulate the brain and enhance its ability to learn. Designed to help children at *all* stages of development, S.M.A.R.T. activities exercise the brain in a way that traditional classroom instruction does not. It focuses stimulation on the brain stem, which controls automatic functions, such as balance, coordination, vision, and fine motor abilities, that are crucial to reading and learning. Without these readiness skills, a child is often unable to apply required auditory and vision skills, is easily distracted in class, and struggles to focus his or her attention on

academic material. To help students gain these skills, S.M.A.R.T. teachers set up obstacle courses and activity stations to stimulate their tactile, auditory, and visual pathways. -Most of the stations include floor mats, rebounders, overhead ladders, balance beams, and spinning games. The students rotate every 3-5 minutes and complete about 8-10 laps. S.M.A.R.T. activities are done for 30 minutes each day and are designed to take place in the classroom, gym or playground. They are compatible with any existing academic curriculum and are a fun, exciting way to stay active and enhance learning.

Hemisphere Specific Auditory Stimulation (HSAS) - Many children with learning challenges have trouble processing sound. Students participating in HSAS listen to music CDs, which are based on their individual audiogram and have been specifically formatted to stimulate their specific under-developed auditory skills, for 20 minutes a day. HSAS leads to improved auditory processing skills that allow the student to engage more easily in the classroom environment. This leads to improvements in basic reading de-coding skills and reading development.

Neurotechnology - Neurotechnology techniques are used to help children with attention issues, hyperactivity, and other learning and behavioral challenges and to achieve a calm and focused state, which is optimum for absorbing and processing information. MLRC offers training in two technologies, Audio Visual Entrainment (AVE) and EEG (Electro Encephalographic) Neurofeedback. Children using these interventions demonstrate significant improvement after completing 30-40 sessions, with some children able to avoid, reduce, or eliminate medication for hyperactivity, inattention and anxiety.

MLRC Training & Program Implementation across the State & Nation

S.M.A.R.T. Teachers Get S.M.A.R.T.

Each year, the MLRC trains teachers from schools across the state and country. Throughout the school year and summer months, teams of educators attend S.M.A.R.T. four-day workshops, either in Minneapolis or at various locations around the country. At the workshop, they learn MLRC interventions and specific activities that, done over a given period of time, prepare children to learn. **To date, more than 4000 teachers have been trained by the MLRC, involving 263 schools and more than 60,000 students across 13 states.**

On-site Staff Development & Mentoring is one of the unique characteristics of the S.M.A.R.T. program. The MLRC provides follow-up, on-site services after the workshop for up to three years.

As classroom teachers, physical educators, principals, reading specialists, and vision and occupational therapists, the MLRC mentors are all experienced professionals with strong backgrounds in education. Based on the most current brain research, and working with developmental optometrists and specialists in brain development, the team has created the S.M.A.R.T. workshop and designed the S.M.A.R.T. Curriculum Guide that serves as a handbook, detailing all of the program activities. These MLRC professionals provide mentoring service that include:

- Consulting and observation of individual programs
- Meeting regularly with each school's team of S.M.A.R.T. educators and administrators

- Providing recommendations to keep the program exciting and moving forward
- Addressing parent and community groups about the S.M.A.R.T. program
- Gathering data to confirm that the program is on track for expected gains

S.M.A.R.T. Documented Success

Test scores and analysis, have shown that students benefit greatly from the S.M.A.R.T. program.

The MLRC uses a number of nationally normed measures to capture data, including the Metropolitan Readiness Test 6, Level 2 at the Kindergarten level. The MRT6 is a widely recognized, nationally standardized, scripted test of readiness for reading and early math levels.

The MRT6 supplies four global scores in the areas of Beginning Reading Skill, Story Comprehension, Pre-Reading Composite (combining Reading Skill and Comprehension scores) and Quantitative Concepts.

Another reading measure selected for use with first and second grade S.M.A.R.T. students is word identification on the nationally standardized and normed Slosson Oral Reading Test (SORT-R3) wordlist. The SORT-R3 provides an indication of the visual recognition language ability rather than decoding through phonemic/phonetic analysis.

These measures were used to collect data on S.M.A.R.T. Kindergarten, 1st, and 2nd grade classrooms in Minnesota (see below). Other MLRC national data and reports are available online at www.themlrc.org.

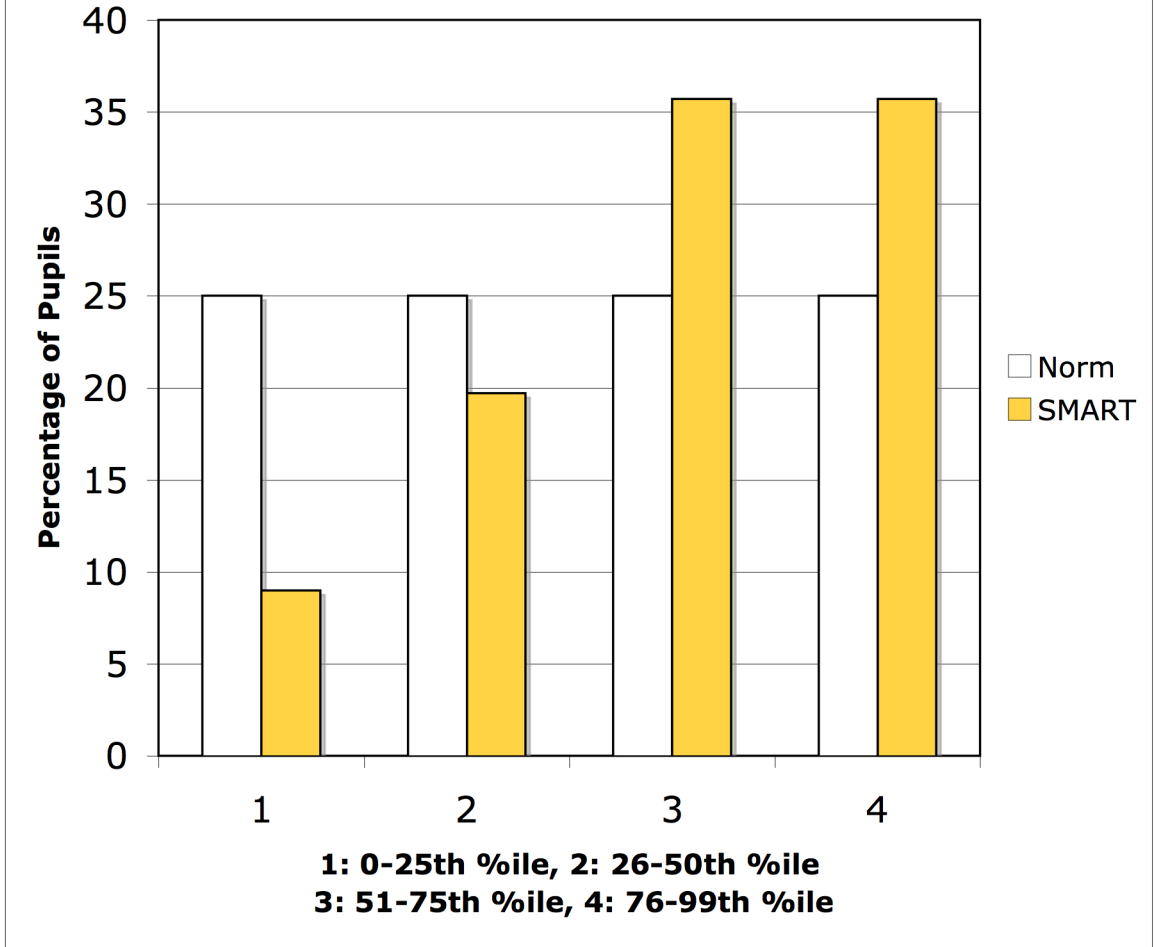
Kindergarten - Metropolitan Readiness Test 6, Level 2 (MRT) shows that **two of every three S.M.A.R.T. Kindergarten students scored above the national mean for reading readiness.**

The MRT's Pre-Reading Composite is a combination of scores from Beginning Reading Skills and Story Comprehension. When testing 412 Minnesota Kindergartners from 18 classrooms, the scores from the Pre-Reading Composite distribution shown in the graph below reveal:

- Only 9% of kids scored in the lowest quartile in reading readiness versus the expected 25%
- 72% scored above the national mean versus the expected 50%
- 91% scored in the average range or superior
- 31% scored at the superior level

The 9% of students who ranked in the lowest quartile are expected to improve to normal levels with a second year of S.M.A.R.T. stimulation. The program produces high-level results in 1st grade reading readiness among regular students, including those who are at-risk of academic difficulties, such as economically disadvantaged and racial/ethnic minorities.

**Pre-Reading Composite Quartile Distribution
Metropolitan Readiness Test-6 (Level 2)
204 Males, 208 Females, May 2005
(11 Alt/Half-Day, 17 Daily All-Day
MN SMART kindergarten Classes)**

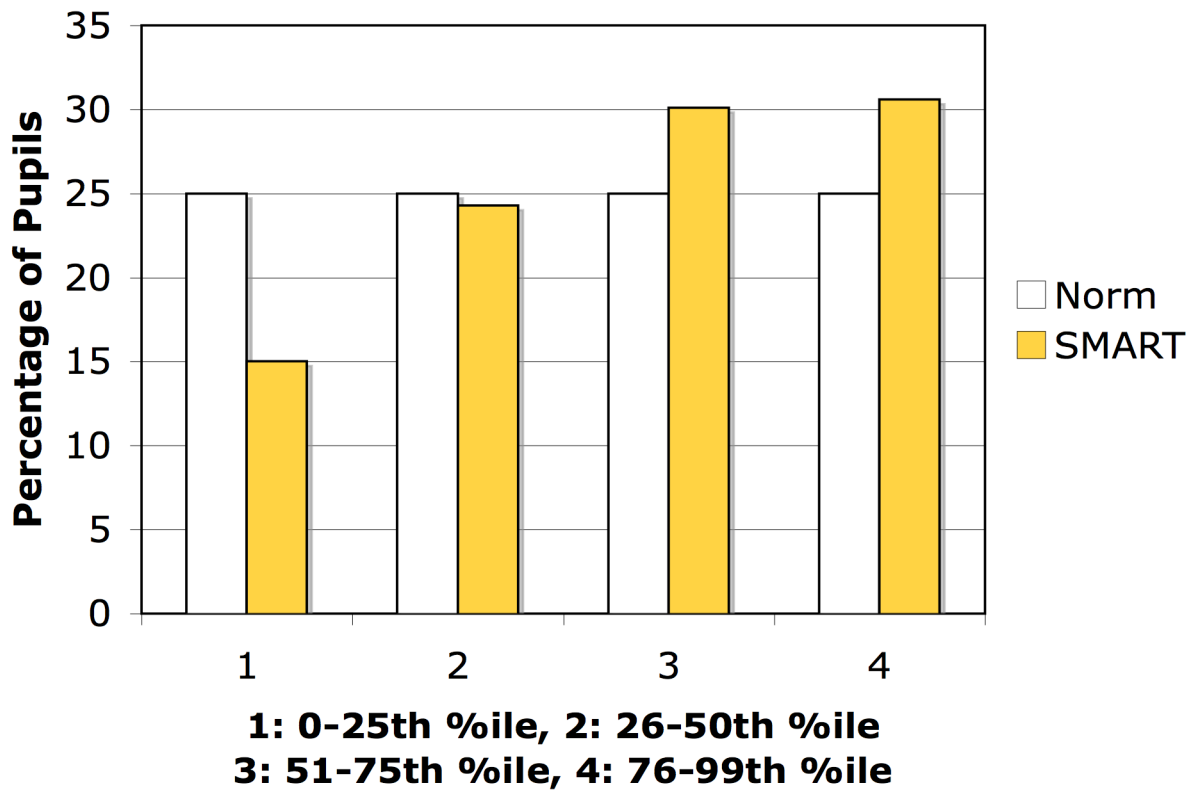


In addition, the MRT scores of the 412 S.M.A.R.T. Kindergarten students tested in Quantitative Concepts display the high proportions and levels of readiness predicting success in primary-grade mathematics curriculum:

- 85% scored at normal levels or higher
- 61% scored above the national mean
- 31% scored in the highest quartile

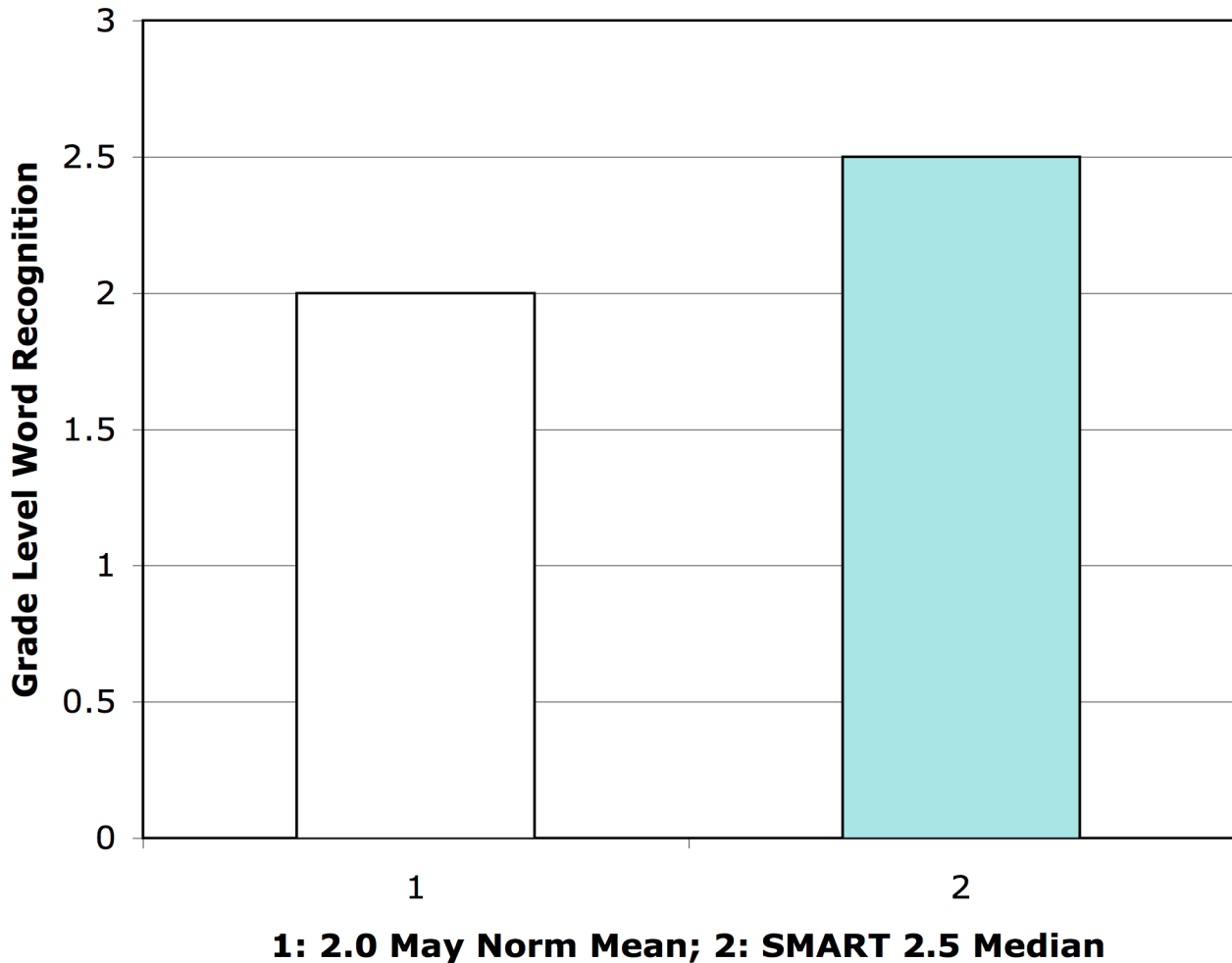
Distribution on the graph below shows that these regular S.M.A.R.T. Kindergarteners are performing at expected levels of maturity compared to national norms. These students are predicted to make steady progress in primary-grade mathematics curricula.

**Quantitative Concepts Quartile Distribution
Metropolitan Readiness Test-6 (Level 2)
204 Males, 208 Females, May 2005
(11 Alt/Half-Day, 17 Daily All-Day
MN SMART Kindergartens)**



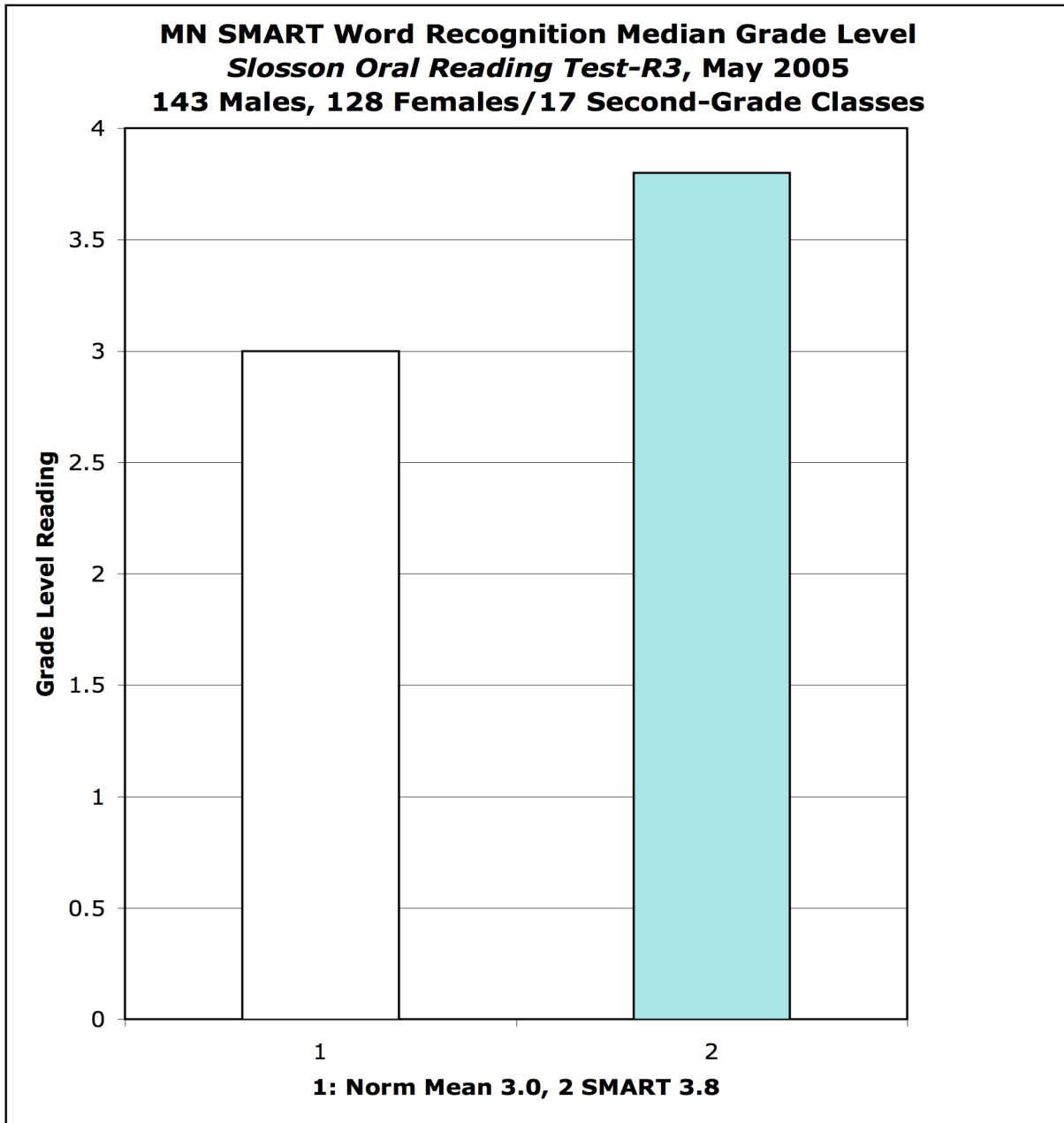
1st and 2nd Grade - The reading measure selected for use with 1st and 2nd grade S.M.A.R.T. students is word identification on the nationally standardized Slosson Oral Reading Test (SORT-R3) wordlist. **At the end of 1st grade, the median class is expected to read at grade level 2.0. When testing 403 Minnesota students from 21 classrooms, graph scores below reveal a half-year advantage to the median S.M.A.R.T. 1st graders who scored at 2.5 grade levels.**

**MN SMART Word Recognition Median Grade Level
Slosson Oral Reading Test-R3, May 2005
200 Males, 203 Females/21 First-Grade Classes**



And, when testing 271 2nd grade students involving 17 classrooms, the advantage for the median S.M.A.R.T. class increased even more to 3.8 reading level compared to the expected 3.0 at the end of two years of reading instruction.

Over two years of S.M.A.R.T. stimulation, the teachers of the median classes were able to boost the acquisition and retention of word recognition by almost one year before entering third grade. Half of the S.M.A.R.T. classes achieved at higher levels than the median class.



The work of the MLRC has spread across Minnesota and the nation. It has caught the attention of funders and community and national leaders. In addition to the initial and continued state legislative backing for a number of years, financial support from the U.S. Department of Education and a number of state and regional foundations, the MLRC has completed a five-year study involving 22 Head Start sites in creating a S.M.A.R.T. – Early Childhood program, to address the needs of those educators and children aged three to five. The MLRC is preparing to launch this program statewide. The MLRC is also currently working in partnership with the Greater Twin Cities United Way. The joint mission is aimed at increasing reading skills amongst children in grades K-3 from families of low income within the nine-county Minneapolis-St. Paul metropolitan area. Through the United Way partnership, the MLRC is working with nine elementary schools to train and mentor their staff over a three-year period. In addition, a newly designed specific training and mentoring model has been designed through the partnership for Title I and other educators working with small groups of children that will enable them to address the needs of children who struggle the most.