TEXAS SCHOOL SEES MATH SCORES RISE WITH TALENT DEVELOPMENT

By Maria Garriott

Students in the Ronald McNair Sixth Grade School in San Antonio, Texas, reached their Adequate Yearly Progress (AYP) goals again last year on the Texas Assessment of Knowledge and Skills (TAKS) test, and narrowly missed being designated as a “recognized” campus.

Under the leadership of Principal Rosie Hidalgo, the school entered into a partnership with the Johns Hopkins University Talent Development Middle Grades program two years ago to improve math instruction. Since then, the school has seen a seven percent increase each year in TAKS scores. For the 2006-07 year, the school missed the “recognized” designation category by less than one percent.

Cathy Sweeney, Ph.D., the Johns Hopkins University TDMG facilitator who works with McNair’s teachers, is not surprised that the school’s 800 students scored so well. “The teachers are excellent and focused. They really pulled it all together well.” Sweeney credits lead math teacher Juan Alvarado with spearheading the drive to improve student achievement. “He coordinated everything perfectly, and is a great asset to the math group.”

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HISTORY PROFESSIONAL DEVELOPMENT CHAMPIONS A NARRATIVE APPROACH

By Maria Garriott

Teachers from the Jersey Shore Area Middle and High Schools recently attended professional development devoted to history instruction based on narrative texts. Susan Dangel, who oversaw the Talent Development Middle Grades’ creation of curriculum for A History of US, Joy Hakim’s narrative series, led the day-long session. Both the Hakim books and the curriculum developed at TDMG are published by Oxford University Press. Dangel, who retired from TDMG in 2005, works part time as a consultant for TDMG and the National Council for History Education (NCHE).

Dangel is enthusiastic about the use of narrative history in the class-Continued on page 4
By Leslie Jones

The No Child Left Behind Act requires that teachers use research-based teaching practices. This can pose a problem for educators, many of whom do not have time to sift through the body of research on effective teaching practices to identify those to keep in their repertoires, those to discard, and those to add. Therefore, we consider it our job at Talent Development to ensure that we build research-based practices into our program components.

Since NCLB was enacted in 2001, the body of research regarding the literacy needs of adolescents as a separate subpopulation of students has grown immeasurably. One important finding is that all middle grades readers—from those who struggle to those who have experienced success in acquiring early reading skills—require the same five supports before, during, and after they read: building background and activating prior knowledge, building vocabulary and fluency, monitoring comprehension, and organizing information. All middle grades students require such supports because it is in the middle grades that students are first confronted by the fact that they must read to learn, whereas in the elementary grades the focus is on learning to read. In addition, the volume and variety of the texts students must read increases dramatically from elementary school to the middle grades. This makes it easy to understand why middle grades students who struggle to read urgently need these supports. Without them, they risk failure not just in reading and English language arts classes, but in virtually all academic subjects. These strategies have been incorporated into Student Team Literature so that teachers who implement that TDMG program component can be assured that they are using research-based best practices that are particularly effective for adolescents.

Building Background: A Solid Foundation

Building students’ background before asking them to read a piece of fiction or nonfiction is as essential as building a foundation before constructing a house. TDMG’s Student Team Literature helps teachers ensure that their students are ready to read by providing a Building Background section in every Discussion Guide. Building Background alerts teachers to topics for pre-reading discussions, including

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themes, historic events, geographic locations, universal human experiences, and aspects of unfamiliar cultures. Discussing these with students beforehand gives them a sense of time and place and encourages them to make personal connections to the subjects encountered. In some Building Background sections, we suggest that teachers work with school librarians to locate pictures of places and events depicted in the literature the students are to read. For example, the Building Background section of the Discussion Guide for Elie Wiesel’s *Night* suggests that teachers “engage [their] school’s librarian or media specialist in identifying sources of photographs having to do with the Holocaust to use in a classroom display.” We cannot take for granted students’ interest in, knowledge of, and preparedness for learning about the subjects to which we introduce them through literature. We hope teachers will use our suggestions and their own creativity to ensure that their students are well prepared for whatever the literature holds in store for them.

**Vocabulary Development**

“Merely asking students to look up terms in a dictionary and memorize their definitions doesn’t help learners develop an adequate understanding of these new concepts” (Barton, Heidema, and Jordan, 2002). “Teaching words well means giving students multiple opportunities to learn how words are conceptually related to one another in the material they are studying” (Vacca and Vacca, 1999). These statements from educational research scientists succinctly convey the reasons for our strong focus on vocabulary development.

Teachers who implement Student Team Literature present new vocabulary by showing and pronouncing new words repeatedly, and by requiring that students echo their pronunciations. This fosters students’ sight word vocabularies. In addition, teachers activate their students’ prior knowledge of roots, affixes, and parts of speech to begin to formulate definitions of unfamiliar words. Over time, students internalize this ability to deconstruct a word, which becomes important when they encounter unfamiliar vocabulary on standardized reading tests. Teachers also introduce new roots and affixes, and help students build definitions of new terms by combining known and newly acquired information about words. Vocabulary presentation concludes with a vocabulary prediction chart that requires students use what they know about a word to predict the ways in which it is likely to be used in a text. Daily “rapid reviews” of new vocabulary and interactive word walls keep new words within sight of students and on their minds so that their vocabularies expand.

After students have read a portion of a trade book in which newly learned vocabulary appears, teachers guide them through the process of incorporating the new words into meaningful sentences, sentences in which a writer intentionally embeds context clues that indicate the writer’s understanding of a word. Composing meaningful sentences enables students to apply their knowledge of new words and helps ensure that the words will be remembered. Take, for example, the word “conflagration” (a very large, destructive fire). A student who writes, “I saw a conflagration” would not show that he fully grasps the meaning of the word, but a student who writes, “All that was left of downtown Largeville after the conflagration was the smell of smoke in the air and block after block of crumbling, soot-covered brick walls” would make his teacher feel confident of his understanding.

**Building Fluency With During-Reading Activities**

A strong focus on vocabulary in Student Team Literature helps remove one roadblock to fluency, “the ability to read texts quickly and accurately” (Cooper, 2000).

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Narrative History (continued)

"To me, history ought to be a source of pleasure. It isn’t just part of our civic responsibility. To me, it’s an enlargement of the experience of being alive, just the way literature or art or music is.”

David McCullough

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room. “History is telling stories about the past, weaving momentous as well as ordinary events and individuals into an endlessly fascinating subject which encompasses heroes and villains, conflict and engagement, drama and discovery,” she says. “Textbooks, with their bland information, their disjointed listing of facts, dates, and events, don’t do that, but narrative history and primary sources do. Our students need the stories to catch their minds, awaken their imaginations, and help them make sense of where we as a people have been. Only then can students grapple with where we are, and grasp where we are going.”

The Jersey Shore Area school district is making the transition to narrative history. Dangel notes that the district “has a wide range of teachers who are knowledgeable about and accepting of that approach.”

The professional development included sessions on using a narrative approach to engage students, foster literacy, and build comprehension. Teachers explored strategies for using primary sources to help students “do history” and develop historical thinking skills. Dangel will return to the school district several times throughout the academic year to visit classrooms and help both experienced and new teachers implement specific strategies.

Dangel points to two popular historians who fuel public interest in history, documentary filmmaker Ken Burns and author David McCullough.

“Ken Burns said, ‘For me, history is the synthesis of countless stories. There is no greater resource than to tap into the memories of those who were there, to unearth the stories. We rely on the strength of memory to depict America’s past.’”

She also quotes McCullough, author of John Adams, 1776, Truman, and other books. “McCullough said, ‘To me, history ought to be a source of pleasure. It isn’t just part of our civic responsibility. To me, it’s an enlargement of the experience of being alive, just the way literature or art or music is.’

“History--stories and pleasure!” Dangel says. “Can we ask for anything better for our students?”

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NEW MATH MATERIALS ASSIST STRUGGLING LEARNERS

By Maria Garriott

Curriculum writers, math facilitators, and researchers at the Talent Development Middle Grades program have created materials to help struggling math learners. The curriculum incorporates the Universal Design for Learning principles, which provide extra support for different learning styles and appropriate accommodations and adaptations for students with the most common types of mathematics disabilities.

The program has completed three curriculum units and is planning on creating at least two more in the coming year. The completed units, Ratio Tables, Bar Models, and Double Number Lines, focus on rational numbers and proportional reasoning and are designed to help more effectively teach the concepts and skills that students need to solve problems involving fractions, ratios, rates, percents, and decimals. Each unit include detailed lesson plans for leading demonstrations, guided practice, and independent practice activities that teach students different ways to solve problems. They emphasize the use of visual tools, big ideas, and conspicuous strategies to understand and solve a problem.

“The overarching goal of the project is to help greater numbers of middle grades students to master key concepts and skills in their math classes,” notes Douglas Mac Iver, Ph.D., co-director of TDMG.

Curriculum writer Cora Teter believes the materials will “help students who need additional scaffolding and reinforcement to succeed.”

TDMG has also begun developing additional units focused on algebraic concepts and skills.

TDMG Senior Math Facilitator Silvia Diaz, Peggy King-Sears, Ph.D., professor of special education at George Mason University, and Doug Mac Iver, Ph.D. recently provided professional development for Philadelphia teachers using the new materials. After teachers pilot the materials, Johns Hopkins University researchers will gather pretest and post-test data to determine the curriculum’s effectiveness in helping struggling math learners.

TEXAS SCHOOL SEES MATH SCORES RISE

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Alvarado believes that providing extra help labs for struggling students and harnessing technology to create individualized instruction were factors in student success. Placing students in programs that best meet their needs was important, he says, as well as the presence of “math teachers who care about student success, achievement, and well being.”

Alvarado says that collaborating with the JHU facilitator reaped benefits for the school.

“Dr. Sweeney has helped our department come years into the future with technology through countless staff developments. She allows me to share the plans and vision I see for the department and gives me feedback as to what will probably work and what definitely will not. I feel much better taking risks with new ideas or innovations.”

Math teacher Juan Alvarado has seen a seven percent increase each year in Texas assessment scores.
After all, reading text filled with unfamiliar words is difficult; one cannot help but stumble haltingly along, focusing on the pronunciation of new words, rather than on understanding the ideas they convey. But understanding vocabulary alone is not enough. Additional work is required because it is not at all unusual for some students to arrive at the middle grades having mastered the decoding of words but lacking fluency, the ultimate goal of reading words aloud. For this reason, four student read-aloud activities--partner reading, echo reading, choral reading, and reader’s theater--are incorporated into Student Team Literature.

In partner reading, two students sit side-by-side facing opposite directions and take turns reading aloud passages from trade books that their teacher has selected and had them first read silently (because silent reading yields greater comprehension). We ask that teachers listen to each student read at least twice per quarter during partner reading and record their observations on one of two fluency scales provided to determine the student’s growth.

As valuable as partner reading is, it can become boring to students, so teachers are encouraged to alternate partner reading with choral or echo reading. In choral reading, students and teacher read together, with the teacher acting as the model where tone, expression, and phrasing are concerned. Echo reading is a variation of choral reading in which the teacher reads aloud a sentence or two, modeling strong phrasing, and then students read the same sentences, mimicking their teacher’s phrasing. The teacher then moves on to the next sentence or two.

Reader’s theater is another option for bringing variety into fluency-building. It is used less than the other fluency builders because it is time-consuming, but is an enjoyable and worthwhile activity because it requires students to “perform” a text and, therefore, focus on reading it fluently. Professional development time beyond initial training in Student Team Literature is required to teach teachers to engage students in reader’s theater.

Effective readers have internal conversations with themselves as they read. They pause to think as they move through a text. On occasion, they rephrase sentences to check comprehension, and reread when what they have read does not seem to make sense. Many struggling readers do not use these strategies because they do not equate reading with thinking. They do not begin thinking about a text until they read questions about it that they must answer after reading, which,
Students fold a piece of notebook paper lengthwise or draw a line down the center. As they read a text, they record on the left side of the paper what the text states that seems to address a question in a Discussion Guide. They record on the right side their comments on or questions about the text. Double-entry journals and text annotation make concrete the internal conversations that effective readers have in their efforts to make meaning of text.

Pulling It All Together: Helping Students Organize Information

Even after vocabulary has been cleared, fluency practiced, and text annotated, students still need help organizing what often seems to be an avalanche of information. In Student Team Literature, graphic organizers help students understand an author’s message fully by showing relationships among pieces of information that might appear in different parts of a text. Sequence chains, story maps, character webs, Venn diagrams, and cause and effect organizers are among the more commonplace organizers students use, but others are genre-specific, such as novel and poetry maps. Still others are custom-made to help students with the complexities of specific pieces of literature. For example, the Discussion Guide for The Westing Game, a humorous mystery that requires readers keep track of a large cast of characters, includes specially created Character Fact Sheets to which students add information as they encounter it so that they can draw conclusions as to “who dunnit.” Finally, a more general

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approach to organizing information comes in the form of a four-step plan to composing brief constructed responses, a skill students must be taught in order to respond to questions in their Discussion Guides.

Building students’ background in preparation for reading, taking time to immerse them in new vocabulary, allowing them practice aloud to build fluency, and teaching them to think about what they read before, during, and after they read are practices that represent a significant investment of precious instructional time. However, research shows that these practices results in a significant return in student achievement.

New TDMG Website

Visit the Talent Development Middle Grades program’s recently redesigned website at http://web.jhu.edu/CSOS/tdmg for announcements, information about the program and recent research.