

beautiful mir

An innovative math program helps change the face of gifted and talented education.



Alison Foley taps her gifted students' math potential, including **Courtney** (facing page, top left) and **Trey** (facing page, top right).

BY JOHN O'NEIL

Friendly fractions" are the day's topic, but Alison Foley's 20 fourth-graders can't dig into that concept until they've tallied and graphed their favorite desserts. Votes for ice cream, brownies, cake, and cookies—even a lone vote for cannoli—go up on the board.

"What about ice cream cake?" one student asks. "If we were doing a Venn diagram, we could put that in the intersection," Courtney offers. Soon, desks and chairs are pulled aside and Foley's kids use yarn and their bodies to make a human pie chart illustrating their data, then go on to calculate what fractions result when you add various categories together.

Foley's math curriculum—which presents concepts several years above grade level—isn't the only thing unusual about her classroom at Smith School in West Hartford, Connecticut. Smith is one of 10 schools in Connecticut and Kentucky piloting an innovative project, Mentoring Mathematical Minds (Project M³), aimed at identifying children in grades 3–5 capable of handling advanced mathematics. Developed at the University of Connecticut, the program is designed to expand the population of students typically served by gifted and talented programs. Sure enough, look around Foley's classroom—which draws students from Section 8 housing as well as million-dollar homes—and

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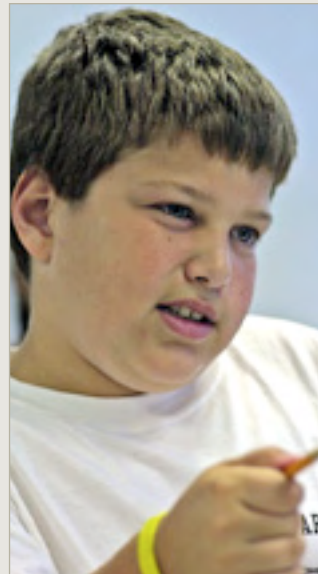


you'll see students as diverse as their favorite desserts, with Black students elbow to elbow with Hispanic, Asian-American, and White pupils.

National figures on gifted education programs suggest such diversity is unusual. Data collected by the Education Department's Office of Civil Rights show that White and Asian students are typically overrepresented among programs for the gifted, while other minorities tend to be underrepresented.

The University of Connecticut project is part of a movement to broaden the scope of gifted and talented programs, which in some communities are fighting for survival. Some advocates for gifted programs say the federal so-called No Child Left Behind law (NCLB), which mandates that schools raise all students' performance to minimally acceptable standards, has school officials focused on average or underachieving learners.

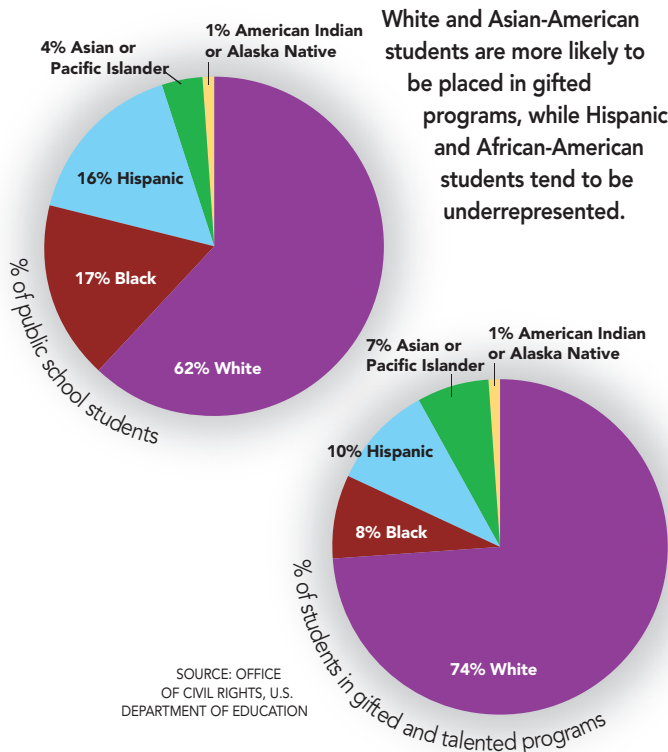
"Teachers who used to teach AP are now teaching remedial reading instead," notes Jane Clarenbach, director of public education and affiliate relations for the National Association for Gifted Children. More bad news: President Bush has proposed eliminating federal Jacob Javits grants, which support research on gifted education (including programs like Project M³).



While research consistently shows the advantages of offering gifted students content tailored to their needs, many buy into the notion that it's not necessary—they say gifted kids will do just fine, even without special curricula. Indeed, with NCLB pressures mounting and district budgets tight, some see gifted programs as offering extra resources to kids who already have all the advantages.

But Clarenbach and others argue that forcing gifted students to march in lock-step with their peers holds

WHO GETS IN?



them back. Nine-year-old Courtney would probably agree. She spent part of last year in Smith School's regular third-grade math class, and part of the year receiving Project M³'s enriched curriculum. Looking back at her grade-level math work, Courtney recalls, "I'd just zip through it in five minutes and have to wait half an hour for everyone to finish. It gave me headaches when I had to do the same things over and over again, honestly."

Clarenbach points out that the issue can be further complicated because the gifted population itself is diverse. For example, some gifted students excel in a single content area but are weak in others; some even have learning disabilities. Still, that doesn't mean areas of strength should be ignored. Project M³ Director Kathy Gavin, who works at the

Neag Center for Gifted Education and Talent Development at the University of Connecticut, cites the example of one student who was almost held back in second grade because of reading difficulties, but who it was thought could benefit from the M³ program. The student was placed in it and “has excelled,” she says.



Mariam displays her knowledge of fractions and her classmates' favorite desserts.

BROADENING THE POOL

Without a special math program like Project M³, the talents of children like Courtney, a vivacious African-American who has already mapped out her life's goals, might go unchallenged. Kathy Gavin says she's met an urban principal who told her flat-out, “I don't have any gifted kids in my school.” But Project M³ helps find them. Kids are selected based on multiple criteria, including a special assessment of nonverbal math ability, which measures such things as spatial sense and reasoning, and standardized tests when available. Teacher recommendations and prior grades also factor in. Opening up the selection process (gifted programs in the past often selected students based on IQ

scores alone) has allowed students with less obvious talents to benefit, says Gavin. Once they're in, kids take four units of about six weeks each, with content pitched several years beyond grade-level standard: the fourth-graders in Foley's class, for example, studied a unit on algebra in which they solved for variables. The lessons focus on conceptual understanding, with lots of time for reflection and discussion.

Early results show that the program has promise. Students taking the M³ curriculum at the 10 schools where the program is being piloted have posted “significant gains” on standardized math tests compared with control groups, with lower-income students recording the highest gains, says Gavin. Alison Foley's fourth-graders were among those who showed gains, and, to her relief, her kids also swept through their district-level tests. She had worried about the results, because the M³ curriculum was such a departure from the standard (and tested) math curriculum in the district.

Foley sees other benefits too—especially for girls who traditionally have been underrepresented in advanced math programs. In regular math classes, boys tend to be more assertive, blurting out answers, while girls hang back. In the M³ classrooms, students often work in pairs and discuss solutions, Foley says, and that helps girls rehearse their answers and support their thinking.

Students like Mariam are benefiting. When the class began, says Foley, “Mariam was overshadowed by the other kids, especially the boys.” But as the year went on her confidence grew. In a recent algebra unit, she argued her point against the entire class—and she was right, says Foley. “That was a huge step for her, and now she has become, in a subtle way, a leader.”

Courtney, who pronounces Project M³ “just awesome,” appreciates being in a class with kids who share her passion for numbers. “The difference between this class and the others is that the kids in the other math classes do it for the rewards, because they're going to get gum or chocolate or something,” she says. “And when they come out of math, they look so unhappy! But when we come out of math, we have smiles on our faces because we love it.” **nea**

Scouting For Talent

Look around your classroom. Could bored Brittany, loquacious Lakisha, or rambunctious Robert benefit from gifted education services? Here's how to find out:

KNOW THE SIGNS. Gifted students often demonstrate advanced performance in one or more disciplines and abstract or

complex thinking. They may also have an increased ability to make connections and see relationships. Varying your assignments can bring out the best in some students: For example, try letting kids show what they know through skits, poems, or dioramas.

PRE-TEST. Find out what students know before you teach a new topic. Both formal assessments (quizzes or interest inventories) and informal (observations or class discussion) can help you identify students who require enrichment activities or an accelerated pace.

WATCH FOR CLUES. Sometimes

actions speak louder than words. A kid who seems bored or disinterested (even acting up) may, in fact, need more challenging work. Talk with the child, a parent, or his or her former teacher to track the behavior pattern and address the issue.

ALLOW FOR DIFFERENCES. All students have academic strengths and weaknesses. A gifted student who excels in science may struggle in writing. Try to make sure students are working at the appropriate level of challenge in each subject area to ensure their growth.

SOURCE: ADAPTED FROM THE NATIONAL ASSOCIATION FOR GIFTED CHILDREN, WWW.NAGC.ORG

