EARLY NUMBER SENSE PLAYS ROLE IN LATER MATH SKILLS

We know a lot about how babies learn to talk, and youngsters learn to read. Now scientists are unraveling the earliest building blocks of math _and what children know about numbers as they begin first grade seems to play a big role in how well they do everyday calculations later on.

The findings have specialists considering steps that parents might take to spur math abilities, just like they do to try to raise a good reader.

This isn't only about trying to improve the nation's math scores and attract kids to become engineers. It's far more basic.

Consider: How rapidly can you calculate a tip? Do the fractions to double a recipe? Know how many quarters and dimes the cashier should hand back as your change?

About 1 in 5 adults in the U.S. lacks the math competence expected of a middle-schooler, meaning they have trouble with those ordinary tasks and aren't qualified for many of today's jobs.

"It's not just, can you do well in school? It's how well can you do in your life," says Dr. Kathy Mann Koepke of the National Institutes of Health, which is funding much of this research into math cognition. "We are in the midst of math all the time."

A new study shows trouble can start early.

University of Missouri researchers tested 180 seventh-graders. Those who lagged behind their peers in a test of core math skills needed to function as adults were the same kids who'd had the least number sense or fluency way back when they started first grade.

"The gap they started with, they don't close it," says Dr. David Geary, a cognitive psychologist who leads the study that is tracking children from kindergarten to high school in the Columbia, Mo., school system. "They're not catching up" to the kids who started ahead.
If first grade sounds pretty young to be predicting math ability, well, no one expects tots to be scribbling sums. But this number sense, or what Geary more precisely terms "number system knowledge," turns out to be a fundamental skill that students continually build on, much more than the simple ability to count.

What's involved? Understanding that numbers represent different quantities — that three dots is the same as the numeral "3" or the word "three." Grasping magnitude — that 23 is bigger than 17. Getting the concept that numbers can be broken into parts — that 5 is the same as 2 and 3, or 4 and 1. Showing on a number line that the difference between 10 and 12 is the same as the difference between 20 and 22.

Factors such as IQ and attention span didn't explain why some first-graders did better than others. Now Geary is studying if something that youngsters learn in preschool offers an advantage.

There's other evidence that math matters early in life. Numerous studies with young babies and a variety of animals show that a related ability — to estimate numbers without counting — is intuitive, sort of hard-wired in the brain, says Mann Koepke, of NIH's National Institute of Child Health and Human Development. That's the ability that lets you choose the shortest grocery check-out line at a glance, or that guides a bird to the bush with the most berries.

Number system knowledge is more sophisticated, and the Missouri study shows children who start elementary school without those concepts "seem to struggle enormously," says Mann Koepke, who wasn't part of that research.

While schools tend to focus on math problems around third grade, and math learning disabilities often are diagnosed by fifth grade, the new findings suggest "the need to intervene is much earlier than we ever used to think," she adds.

Exactly how to intervene still is being studied, sure to be a topic when NIH brings experts together this spring to assess what's known about math cognition.

But Geary sees a strong parallel with reading. Scientists have long known that preschoolers who know the names of letters and can better distinguish what sounds those letters make go on to read more easily. So parents today are advised to read to their children from birth, and many youngsters' books use rhyming to focus on sounds.

Likewise for math, "kids need to know number words" early on, he says.

NIH's Mann Koepke agrees, and offers some tips:

_Don't teach your toddler to count solely by reciting numbers. Attach numbers to a noun — "Here are five crayons: One crayon, two crayons..." or say "I need to buy two yogurts" as you pick them from the store shelf — so they'll absorb the quantity concept._

_Talk about distance: How many steps to your ball? The swing is farther away; it takes more steps._

_Describe shapes: The ellipse is round like a circle but flatter._

_As they grow, show children how math is part of daily life, as you make change, or measure ingredients, or decide how soon to leave for a destination 10 miles away,_

"We should be talking to our children about magnitude, numbers, distance, shapes as soon as they're born," she contends. "More than likely, this is a positive influence on their brain function."
Drone Studies: University of Missouri Is Teaching Journalism Students How to Fly Drones

Forget mastering the Associated Press style guide; some journalism students now need to learn the fine science of flying drones.

The University of Missouri’s School of Journalism in Columbia, Mo. launched a class on drones in February 2013, ABC News reports. The school partnered with local NPR affiliate KBIA, which provided a $25,000 grant to build the drones, according to Fast Company.

“I think there will be a demand for it, just like any technology in the journalism tool box,” William Allen, the University of Missouri professor who spearheads the course, told ABC News.

Indeed, a group of Pakistani students who visited the class suggested the drones could be used to report in conflict zones. Rather than risking reporters’ lives in terrorist bombings, news organizations could deploy drones as first responders.

Academics like Allen believe such technology could help journalists get up-close to a breaking news stories — like natural disasters or fires — or even usher in a new realm of investigative reporting. The University of Nebraska-Lincoln, which has been home to the Drone Journalism Lab since 2011, teaches students how to operate unmanned autonomous vehicles (UAVs) and how to interpret the footage and the ethics using the military robots, as well FAA regulations.

Civilian use of drones is becoming more widespread. Last week, a Senate hearing on the implications of drone use revealed that the Federal Aviation Authority plans to allow commercial use of drones in the U.S. by 2015. Already, 81 organizations ranging from police enforcement to universities have tapped into the military technology. In fact, about 120 students at the University of North Dakota are majoring in drone studies.
But as more Americans are permitted to operate drones, lawmakers have become increasingly concerned about how to safeguard citizens’ privacy. Missouri’s state government is debating a bill prohibiting drone use. Its sponsor, state Rep. Casey Guernsey, told the Gateway Journalism Review: “If we are moving into an age of news agencies using drones to collect information on private citizens, I’m definitely concerned about that.”

However, University of Washington School of Law Professor Ryan Calo argued at last week’s Senate hearing that drones are essentially “flying smartphones” that can take pictures and track locations in the same way smartphones do, Popular Science reports: “In 2015, when the FAA is set to begin to relax its prohibition on use and integrate civilian use of drones, then I would think the first folks in the door

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COLUMBIA, Mo. (AP) — A University of Missouri wine research center is holding public tastings of experimental varieties this week.

Eighteen to 20 Missouri wines from the 2012 vintage were scheduled to be presented at the tasting events Tuesday evening and Wednesday afternoon in Columbia. The Grape and Wine Institute is a part of the university's College of Agriculture, Food and Natural Resources.

Campus scientists use the results to help assess the quality of grapes they grow.

The tastings cost $20 and include a deli buffet.
By Allie Hinga, GH Lindsey
March 25, 2013 | 6:00 p.m. CDT

COLUMBIA — The MU flag flew at half-staff Friday in honor of senior art student Emily Jackson, who died in her off-campus home Thursday.

Services will be held at 11 a.m. Wednesday at Wright-Baker-Hill Funeral Home, 1201 W. Helm St. in Brookfield. Visitation will begin at 1 p.m. at the funeral home, and the family will receive friends from 6 to 8 p.m. that night. Miss Jackson will be buried in Park Lawn Cemetery in Brookfield.

Eddie Adelstein, medical examiner for Boone County, cited a "natural disease process that resulted in her death." No foul play was involved.

Miss Jackson graduated from Lebanon High School in 2008 and came to MU to study art. She planned to graduate in May with a bachelor of fine arts.

"Everyone in the department feels that she was a wonderful student," said Jo Stealey, an MU art professor who teaches fiber art classes. "She took her studies very seriously, but she also was a wonderful friend to everyone."

Assistant Teaching Professor Claire Stigliani had Miss Jackson as a student in her senior seminar and watercolor classes.

She said Miss Jackson had compassion toward everyone she met, a constant smile and a sense of humor.

"You couldn't find one person who knew her who would say anything bad about her," Stigliani said.

Even when she'd tell Stigliani that she was having a tough day, she would come in the next day and be just fine.

Stigliani's senior seminar class is working to put on an art show displaying pieces of each student's work the Friday before graduation.
"I imagine that the show and the rest of her class is really going to be marked by her absence," she said.

Miss Jackson was also a student manager of Rollins Dining Hall.

An obituary in the Linn County Leader lists these survivors: her parents, Keith and LaDonna Jackson of Linneus; one brother, Jonathan Carl “J.C.” Jackson of Linneus; her grandparents, Kathleen Hirter of Savannah, Mo., and James D. and Willadean Jackson of Jefferson City; her boyfriend, Kevin Gross of Columbia; and uncles and aunts, Loren and Elaine Hirter of Savannah, James M. and Carol Jackson, of West Chester, Ohio, and Jill and Mike Brittingham of Macon.