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# THE DEATH OF PRESCHOOL

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The trend in early education is to move from a play-based curriculum to a more school-like environment of directed learning. But is earlier better? And better at what?

By Paul Tullis

**O**n a perfect Southern California morning not long ago, a gaggle of children gathered in the backyard of a million-dollar home in an upscale Los Angeles neighborhood to celebrate the birthday of twin four-year-old girls. The host parents had rented a petting zoo for the day, and kids jumped gleefully in a bouncy castle out in the driveway. On the terrace, a few parents chatted beside an alluring spread of bagels, coffee and fruit.

Most of the kids at the party attend the same preschool. The father of one child enrolled there, where tuition is \$14,300 a year for half a day, was asked what he likes about it.

"I like that my daughter can tell me what kind of whale it is we see in a movie," said the man, sporting a seersucker jacket. "They seem to be teaching things that other schools don't."

"You ask them what they did in school today," chimed in another dad, "and they're like, 'Oh, today we learned about pointillism.' There's a whole series on Picasso, a four-month project on Klimt."

The first father continued his praise. "You go in there, and they're sitting down, learning something,"

he said. "At other preschools, they're just playing."

These parents might be surprised to learn that "just playing" is in fact what nearly all developmental psychologists, neuroscientists and education experts recommend for children up to age seven as the best way to nurture kids' development and ready them for academic success later in life. Decades of research have demonstrated that their innate curiosity leads them to develop their social, emotional and physical skills independently, through exploration—that is, through play. Even animals as diverse as squirrels, horses and bears engage in, and cognitively benefit from, play [see "The Serious Need for Play," by Melinda Wenner; SCIENTIFIC AMERICAN MIND, February/March 2009].

The trend among preschools, however, is to engage children in activities that look more and more like school for older kids. Early-childhood educators are turning to a method known as direct instruction, which the National Institute for Direct Instruction, an advocacy group, defines as "teaching that emphasizes well-developed and carefully planned lessons ... and clearly defined and prescribed teaching tasks." So children spend more time sitting, listening and fol-

AURORA PHOTOS



lowing instructions and less time playing pirates.

The National Association for the Education of Young Children, a Washington, D.C.-based organization that proposes standards for preschools, has changed its guidelines to focus more on specific achievements. In 1998 its standards “were more general in nature,” says deputy executive director Barbara Willer. When the standards were last updated, in 2006, children were suddenly expected to demon-

strate proficiency in 58 distinct topics in seven academic areas, including literacy, math and science. Although nobody is recommending either entirely free play or eliminating it altogether, even Willer advocates for balance: “Primarily focusing on seatwork or lecturing with little or no time for children to interact, explore, investigate and play is not an effective teaching strategy for active young children.”

Nevertheless, the challenge of putting those guidelines into practice has tilted many preschool teachers toward traditional classroom activities such as lectures, flash cards and tests. “Scientists are baffled,” says Alison Gopnik, a professor of psychology at University of California, Berkeley. “The more serious science we do, the more it comes out that very young children are not designed to do focused, goal-directed behavior we think of [as appropriate] for older children but are to a phenomenal degree very sophisticated about learning from the things and the people around them.”

#### The Infant Intellect

Gopnik, with her colleagues Daphna Buchsbaum and Thomas L. Griffiths, demonstrated these sophisticated learning methods in a study published

#### FAST FACTS

##### Learning in Limbo

- 1 A growing consensus among psychologists and neuroscientists maintains that children learn best when allowed to explore their environments through play.
- 2 Preschools are increasingly turning away from play-based learning to lectures and testing.
- 3 Placing heavy emphasis on academics early in life is not only out of line with how young brains develop, it might even impede successful learning later on.

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this year. The researchers showed two groups of children a toy that played music in response to a particular sequence of actions. With one group, an experimenter demonstrated several lengthy sequences of actions that made it play music; with the other, she pretended not to know how it worked. The kids in the first group imitated the experimenter. Although they successfully got the toy to play music, they did not figure out that only two actions embedded in the sequences were needed to produce sounds. The group without direct instruction, however, discovered the more efficient solution without the “teacher” ever having showed it to them.

In a similar study also published this year, developmental psychologist Laura Schultz of the Massachusetts Institute of Technology and her colleagues showed two groups of children a toy that did a number of things, including emitting squeaks. When left to play with it, the group for whom the experimenters demonstrated how to make it squeak could only make it squeak. The group given the toy without any direct instruction, however, made it squeak and discovered its other features, too. Direct instruction, these studies suggest, inhibits children’s natural curiosity and their ability to learn.

Such expressions of inquisitiveness reveal how children investigate their world. For example, youngsters use dramatic (“pretend”) play to try to exert control over their environment just as they grow strong enough to do so. Running around in circles, playing with blocks and climbing on a jungle gym may seem like exercise or goofing off to an adult, but several studies have shown that children infer a basic sense of physics through these activities. The possession of fine-motor skills—learned through activities such as drawing and cutting, which coordinate finger movement with visual perception—is one of the strongest predictors of academic success, according to a study last year by David Grissmer and his colleagues at the University of Virginia’s Center for Advanced Study of Teaching and Learning.

Further evidence of children’s innately sophisticated learning methods comes from long-term studies of how children acquire language. In a University of Kansas study in 1995, psychologists Betty Hart, Todd Risley and their collaborators tracked 42 families with one- and two-year-olds and recorded every verbal interaction between parents and children. They found no instances of direct teaching among the kids who went on to develop the widest vocabularies and richest use of language. As Peter L. Mangione, co-director of the Center for Child and Family Studies at WestEd in San Francisco, a nonprofit public research and development agency, puts it,

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## A report by the Alliance of Childhood found an average of 20 to 30 minutes a day of testing and test preparation among kindergarteners in Los Angeles and New York.

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“Storytelling, singing, playing, telling jokes—those are the building blocks of extensive vocabularies. Not direct teaching.”

### Preschool ... or Precollege?

So why the shift to direct instruction at preschools today? Mangione sees two forces at work: “The perception is the earlier you start doing formal learning experiences, the better.” A second factor, he and others agree, is standardized testing. The law passed by Congress in 2001 known as No Child Left Behind encouraged preschools to include more direct instruction in their curricula by mandating standardized tests in math and reading for all public school third graders. Schools failing to meet certain benchmarks face stiff penalties. Consequently, teachers in the earlier grades come under pressure to prepare kids for the coming high-stakes assessments.

Children enrolled in the federal Head Start preschool program for underprivileged children are also assessed as a result of No Child Left Behind. Yet, wrote Deborah Stipek, dean of Stanford University’s School of Education, in 2006, “If the test used to assess early-childhood programs focuses on isolated skills, children are likely to be taught isolated skills.” Such a shift, she continued, would tend to foster direct instruction.

Stipek was right: a report by the Alliance for Childhood, an international NGO promoting healthy child development, found an average of 20 to 30 minutes a day of testing and test preparation among kindergarteners in Los Angeles and New York. This past spring a New York City mother sued her daughter’s \$19,000-a-year preschool for failing

### (The Author)

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to prepare the girl for the standardized tests that private schools rely on for kindergarten admissions. The suit cited an article in the *New York Times* as evidence of what has become an accepted fact of life among professional-class Manhattan parents in recent years, despite the absence of proof: admission to what is considered an “elite” preschool is a necessary first step to admission to the Ivy League.

Gopnik says the preschool teachers with whom she speaks regularly tell her they know that play is best for their small charges, but they feel squeezed between two sides. On one, as if confirming Mangione’s hypothesis, is policy makers; on the other is parents.

It might seem ironic that this shift toward direct instruction and earlier introduction of academics is most visible among the children of some of the best-educated parents, at a time when American society as a whole is the best educated it has ever been—especially given all the science supporting play-based learning. But Gopnik points out that with many affluent people moving far away from family members when they enter adulthood and most women entering the workforce right away, fewer new parents have taken care of nieces, nephews and cousins, as they did in earlier times, before raising their own children. They may have no experience with the very young. “But what they have lots of experience with is going to school and

blocks from the Hollywood Freeway, the school is considered one of the most exclusive preschools in the city, with pupils coming from the wealthiest neighborhoods. Inside, posters of well-known works by Picasso, Matisse, Léger and van Gogh cover walls freshly painted in bright colors. Soon after I sit down on a small, blue stool to observe the children, someone offers me an espresso.

This Montessori school is ostensibly based on an educational program developed by an Italian woman of that name early in the 20th century, which encourages children to discover new concepts using “materials that develop their cognitive powers through direct experience,” in the words of the American Montessori Society. But in the first few minutes of observation, it is clear that direct instruction is part of the program.

One five-year-old boy is quizzed on the human skeleton. A girl pores over flash cards of words composed of two consonants surrounding the letter a. She sounds them out slowly with the help of a teacher, who repeats the sounds more quickly and more closely together.

“Sad!” the girl finally says.

“Tomorrow you have to read the same words,” the teacher informs her.

Another girl aged four or five, in a long magenta skirt and a sequined T-shirt, assembles a puzzle that forms a map of Asia. After putting the largest piece on the floor in front of her, she approaches a teacher for direction.

“Find Vietnam,” the instructor says. The girl digs through the puzzle pieces and places Vietnam on the floor. She goes back to the teacher.

“What’s next to Vietnam?” asks the grown-up. The little girl’s eyes dart nervously about the room as she searches the recesses of her tiny mind for the answer.

“Cambodia,” she says.

“Good,” the teacher responds. “Now find Cambodia.”

As the girl does so, I ask her what she knows about Vietnam.

“I don’t know because I haven’t been there,” she tells me. “I’ve only been to Thailand.”

### Brains under Pressure

Salvatore Vascellaro teaches preschool teachers as a member of the faculty at New York City’s Bank Street College of Education, one of the oldest and most well-regarded such schools in the U.S. Confirming what the girl had told me, he says, “Nothing is as rich for kids as when they engage the world physically.” Although I had already spoken to Vas-

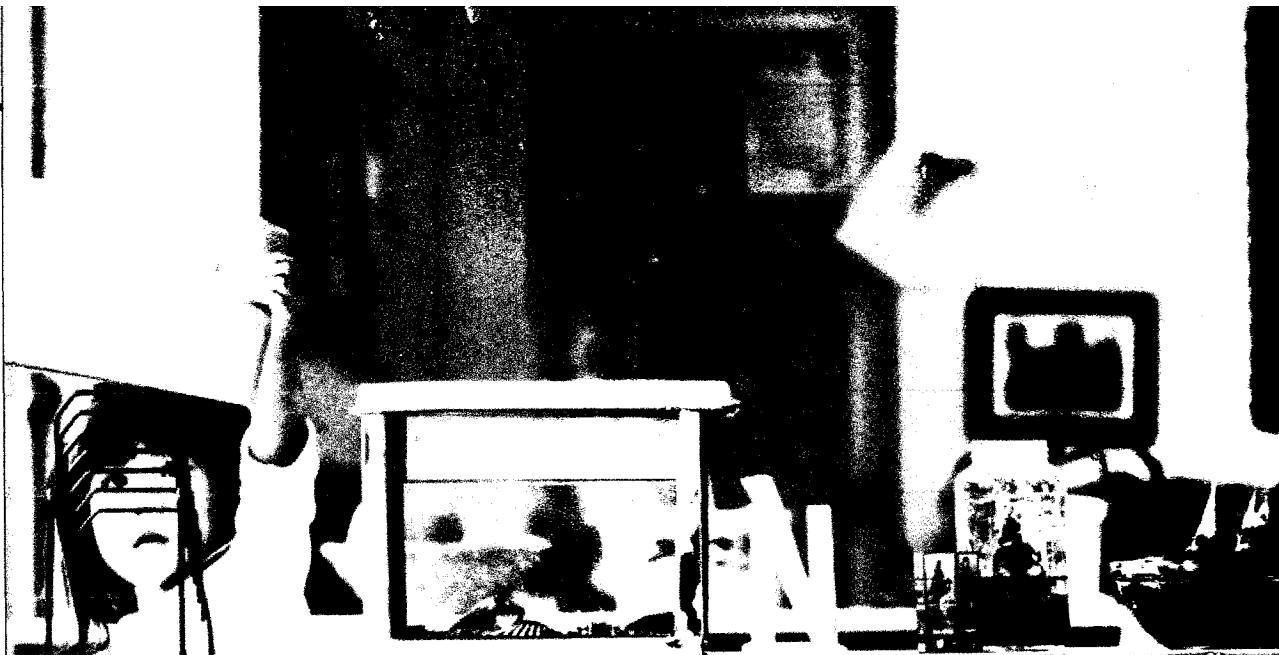
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work; they’re really good at that, so it’s natural they think that’s what children should be doing as well. Not having seen what a three-year-old is like, they think they should put children in situations that are more academic.”

Montessori Shir Hashirim, the place attended by the children of that L.A. birthday party, would appear emblematic of Gopnik’s notion. Housed in a small, craftsman-style bungalow tucked between an apartment building and a recording studio a few



cellaro, I was still impressed to see a preschooler identify the countries of Southeast Asia and assemble their shapes on a map. My seven-year-old sure could not do it. But, Vascellaro asks, “What would she do with that knowledge other than spout it back to adults? We want kids to draw relationships from what they see. To think and question and act on these things.” A child’s play is essentially improvisation—a chance to try out new concepts by imagining scenarios or thinking up ways to manipulate a toy.

More troubling is the idea that children may suffer when deprived of play. Emphasizing the acquisition of skills such as early reading and geography comes with a trade-off—less time spent on social and emotional development, which are themselves important to a child’s ability to learn. “When we say every five-year-old must leave kindergarten reading,” Vascellaro adds, referring to a policy some educational programs are adopting, “we’ve put some kids at a distinct disadvantage.” The ability to read can come anywhere between the ages of three and seven and be considered normal. “If you’re going to fail in kindergarten, boy, it’s downhill from there.”

Early academic experiences can forge dramatic long-term links with mental health later on, as Lawrence Schweinhart, now president of the HighScope Educational Research Foundation in Ypsilanti, Mich., and his colleagues showed in 1997. They followed 68 three- and four-year-olds, all living in poverty, through age 23. Almost half of those in a heavily academic preschool went on to have emotional problems, compared with only 6 percent of those in the play-based preschool. The latter group also had fewer felony arrests and spent fewer years in special education diagnosed with emotional impairment.

Perhaps most disturbing is the potential for the

early exposure to academics to physiologically damage developing brains. Although the brain continues to change throughout life in response to learning, young children undergo a number of sensitive periods critical to healthy development; learning to speak a language and responding to social cues are two such domains. Appropriate experiences can hone neural pathways that will help the child during life; by the same token, stressful experiences can change the brain’s architecture to make children significantly more susceptible to problems later in life, including depression, anxiety disorders—even cardiovascular disease and diabetes. Bruce McEwen, a neuroendocrinologist at the Rockefeller University, notes that asking children to handle material that their brain is not yet equipped for can cause frustration. Perceiving a lack of control is a major trigger of toxic stress, which can damage the hippocampus, a brain area crucial to learning and memory.

That’s probably not what the man in the seer-sucker jacket hopes for his daughter, who knows so much about whales.

### (Further Reading)

- ◆ **Einstein Never Used Flashcards: How Our Children Really Learn—And Why They Need to Play More and Memorize Less.** Kathy Hirsh-Pasek, Roberta Michnick Golinkoff and Diane Eyer. Rodale Books, 2003.
- ◆ **Montessori: The Science behind the Genius.** Angeline Stoll Lillard. Oxford University Press, 2005.
- ◆ **The Philosophical Baby: What Children’s Minds Tell Us about Truth, Love, and the Meaning of Life.** Alison Gopnik. Farrar, Straus and Giroux, 2009.
- ◆ **Mind in the Making.** Ellen Galinsky. Harper Paperbacks, 2010.
- ◆ **Primal Brain in the Modern Classroom.** David C. Geary in *Scientific American Mind*, Vol. 22, No. 4, pages 44–49; September/October 2011.
- ◆ **Out of the Classroom and into the World: Learning from Field Trips, Educating from Experience, and Unlocking the Potential of Our Students and Teachers.** Salvatore Vascellaro. New Press, 2011.

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