

# BACON'S REBELLION

The Op/Ed Page for Virginia's New Economy

## Brain Games

**Want Virginia children to excel in school? Spending \$300 million a year on universal pre-K may not be the best solution. Try teaching kids to eat right, get enough sleep and stay away from the television.**

By James A. Bacon

The Kaine administration justifies its push for a universal pre-K program in Virginia with an argument that could come straight out of MBA school: Better preparing young children for elementary school increases the odds that they'll succeed academically, which means they're less likely to drop out, go on welfare, commit crimes and spend time in jail. In essence, the Kainiacs are borrowing the "life cycle" management methodology from the business world and applying it to social policy.

I'm all in favor of investing small amounts now in order to save money later, as long as the numbers aren't cooked to reach a fore-ordained conclusion. But permit me to introduce another business tool: Return on Investment analysis. When businessmen "invest" their dollars, they compare alternative uses of their capital. They don't fund every project that might save money: They fund those that offer the *highest* return on investment.

For purposes of argument, I'm willing to accept Gov. Timothy M. Kaine's proposition that

universal pre-K will not only improve the lives of our fellow citizens but will save taxpayers money in the long run. Not everyone accepts that argument -- see Chris Braunlich's column, "[Does Universal Pre-K Work](#)," December 12, 2005 -- but I'm willing to set aside that concern in order to explore a different question: Of all the potential new investments that the Commonwealth can make in education, will universal pre-K yield the highest return?

I don't pretend to be an expert in Virginia's educational system, but I do happen to serve on the board of directors of kSero Corporation, a company that oper-

ates a cognitive development center in western Henrico County, and I have chatted at length about educational and social issues with its CEO, Dr. Susan Hardwicke. Hardwicke, who also founded EduTest, a successful online testing company, questions a core tenet of universal pre-K: that greater development of social, emotional, motor and cognitive skills among toddlers in pre-school can overcome the cultural pathologies of American culture and the institutional failures of Virginia's educational system that depress academic performance of older children.

As an expert in educational testing, Hardwicke starts with the results of the National Assessment of Educational Progress (NAEP). Virginia children perform fairly well in the early years. When it comes to explaining why so many children

Virginia Performance in NAEP (2005)				
	Achievement Level (%)			
	Sub	Basic	Proficient	Advanced
<b>Math</b>				
4th grade	17	44	33	6
8th grade	25	42	25	8
<b>Science</b>				
4th grade	20	40	35	5
8th grade	34	31	31	4
<b>Reading</b>				
4th grade	28	35	29	8
8th grade	22	42	33	3
<b>Writing</b>				
4th grade	11	60	27	2
8th grade	12	56	29	3

Source: National Assessment of Educational Progress

ultimately drop out and fail to become successful adults, Hardwicke says, "The locus of the problem is between 4th and 8th grade."

The good news in the chart on the previous page is the marginal improvement in reading and writing proficiency between 4th and 8th grades. "That tells us that some of the early reading initiatives seem to be working," says Hardwicke.

The discouraging news is the significant deterioration in mathematics and science. "In the 4th to 8th grades," Hardwicke continues, "they're not developing the [math and science] skills ... they need. Pre-K won't help that."

In other words, Virginia children start strong. But the longer they spend in the Virginia school system, the weaker they get.

Hardwicke sees a number of systemic problems in the educational system and the popular culture which bear no connection to how many years toddlers spend in pre-K learning to recite their numbers and their A,B,Cs.

#### **Standardized curriculum.**

Children develop at different rates, Hardwicke observes, yet they are herded through a standardized curriculum based on their age. "You run the risk of rapid learners being slowed down by the system. There's also pressure to see [slower learners] pushed through. We see some advancement through grade levels when it's not warranted."

#### **Non-academic instruction.**

Considerable time is spent in school on subjects not related to the academic curriculum. Safety. Drugs. Family planning. "Topics may relate to societal education," Hardwicke says, "

but they don't relate to academic success" needed to get a job in the Knowledge Economy.

#### **Length of school year.**

In Europe, children attend school for more hours every day, and for more days out of the year. There is a direct connection between how much time children spend in school and how much they learn, Hardwicke contends. Why add another year of school (or pre-K) instead of making better use of the grades we've already got? Why shouldn't children attend school year round?

Those are all valid questions, but what really fascinates me are the cultural pathologies. And I'm not just talking about the widely discussed pathologies of the poor like out-of-wedlock births, drug addiction and the rest of the grim litany. I'm talking about pathologies that cut across American society.

When Hardwicke launched kSero, her business model centered on developing the fundamental building blocks of cognition -- short-term memory, attention and focus, processing speed, and the like -- which are necessary to progress to more complex cognitive skills like pattern recognition, logic and problem solving, which, in turn, are needed to progress to advanced reasoning, creative thinking and insight. She envisioned the Center as a "gymnasium for the mind," where children would work on specific mental exercises geared to their cognitive portfolio.

While Hardwicke experienced some demand for cognitive training, she encountered dozens of children -- representative of millions more around the country -- whose problems with academic performance were more related to behavior than cognitive development. "We are

very concerned about kids in middle- and upper middle-class homes, not just the public housing projects," says Hardwicke.

Perhaps the single biggest problem is poor nutrition. Parents don't enforce healthy eating. They indulge their children with sugar and trans fats. Not only does poor nutrition put children at risk of obesity, it affects their behavior and their cognitive development.

Too many kids are stoking up on carbs, then mentally crashing. Also, says Hardwicke, "The quality of thinking is directly dependent upon cell-to-cell communications and neurotransmitters in the brain. Memory is dependent upon acetylcholine. You need quality fats in the diet. This is a serious problem. It's related to the epidemic of attention deficit in class -- you can't cure it just by dispensing pharmaceuticals."

Through nutritional changes alone, says Hardwicke, some of her clients have shown dramatic improvement -- better moods, longer attention spans, more energy to get through the day, and improved academic performance.

Another epidemic is sleep deprivation. Too many parents are unable or unwilling to enforce regular sleeping habits. "Children are allowed to stay up until one o'clock!" Hardwicke marvels. "Sleeping is when the brain consolidates learning. When sleep is disrupted, the optimization of the brain doesn't occur." The neurophysiology of sleep is something that parents cannot be expected to know. But it doesn't take a Ph.D. in cognitive science to figure out that children have more difficulty paying attention in class when they're tired.

Hardwicke's other bugaboo is electronics. Television and computer games interfere with the hard-wiring of developing brains, she says. The child may look passive sitting in front of the boob tube, but watching TV programming is surprisingly draining. "As TV is a series of images and sounds, the brain is continuously reorienting. It's like a tax on the brain."

Combine too much television with insufficient sleep and lousy nutrition, Hardwicke says, and "you've got the recipe for problems in school." Sadly, an entire generation -- not just a few isolated cases, or even a small sub-culture -- is being raised this way.

Whatever the beneficial impact of pre-K on children, suggests Hardwicke, the most powerful impact may be the wrong-headed expectations it creates in the parents. Says she: "Parents bring their children into the world not just to give them shelter, food and clothing. They bring them into the world to provide for their upbringing. The state is not responsible for the children -- the parents are. But universal pre-K will lead to the idea that the state is responsible, not the parent. By allowing the parent to abdicate responsibility of early education, you're not enabling them to create structure in the home where expectations are clearly defined and good routines are established clearly in life."

The Kaine administration estimates that it would cost about \$300 million a year to make pre-K universally available in Virginia. That's one option for the money. But we need to explore alternative uses. Hardwicke argues the funds would be better spent on improving children's nutrition -- or even educating the parents.

Says Hardwicke: "Take those monies and spend them on educating parents so they understand brain development and the critical nature of the early years. Teach them they need to take responsibility for their child's development. Just think of what you could accomplish if you could get parents to provide good nutrition, a good night's sleep, books at home, no TV, and Lincoln Logs. "

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