

Failing Our Geniuses

In U.S. schools, the highest achievers are too often challenged the least. Why that's hurting America—and how to fix it

BY JOHN CLOUD

ANY SENSIBLE CULTURE WOULD KNOW what to do with Annalisee Brasil. The 14-year-old not only has the looks of a South American model but is also one of the brightest kids of her generation. When Annalisee was 3, her mother Angi Brasil noticed that she was stringing together word cards composed not simply into short phrases but into complete, grammatically correct sentences. After the girl turned 6, her mother took her for an IQ test. Annalisee found the exercises so easy that she played jokes on the testers—in one case she not only put blocks in the correct order but did it backward too. Angi doesn't want her daughter's IQ published, but it is comfortably above 145, placing the girl in the top 0.1% of the population. Annalisee is also a gifted singer: last year, although just 13, she won a regional high school competition conducted by the National Association of Teachers of Singing.

Annalisee should be the star pupil at a school in her hometown of Longview, Texas. While it would be too much to ask for a smart kid to be popular too, Annalisee is witty and pretty, and it's easy to imagine she would get along well at school. But until last year, Annalisee's parents—Angi, a 53-year-old university assistant, and Marcelo, 63, who recently retired from his job at a Caterpillar dealership—couldn't find a school willing to take

Claire Evans, 12

Attends Reno's Davidson Academy, like others on the following pages. Took Algebra II at age 11. **Ambitions:** Possible career in the sciences; learning to sail

their daughter unless she enrolled with her age-mates. None of the schools in Longview—and even as far away as the Dallas area—were willing to let Annalisee skip more than two grades. She needed to skip at least three—she was doing sixth-grade work at age 7. Many school systems are wary of grade skipping even though research shows that it usually works well both academically and socially for gifted students—and that holding them back can lead to isolation and underachievement. So Angi home schooled Annalisee.

But Angi felt something was missing in her daughter's life. Annalisee, whose three siblings are grown, didn't have a rich social network of other kids. By 13, she had moved beyond her mother's ability to meaningfully teach her. The family talked about sending her to college, but everyone was hesitant. Annalisee needed to mature socially. By the time I met her in February, she had been having trouble getting along with others. "People are, I must admit it, a lot of times intimidated by me," she told me; modesty isn't among her many talents. She described herself as "perfectionistic" and said other students sometimes had "jealousy issues" regarding her.

The system failed Annalisee, but could any system be designed to accommodate her rare gifts? Actually, it would have been fairly simple (and virtually cost-free) to let her skip grades, but the lack of awareness about the benefits of grade skipping is emblematic of a larger problem: our education system has little idea how to cultivate its most promising students. Since well before the Bush Administration began using the impossibly sunny term "no child left behind," those who write education policy in the U.S. have worried

most about kids at the bottom, stragglers of impoverished means or IQs. But surprisingly, gifted students drop out at the same rates as nongifted kids—about 5% of both populations leave school early. Later in life, according to the scholarly *Handbook of Gifted Education*, up to one-fifth of dropouts test in the gifted range. Earlier this year, Patrick Gonzales of the U.S. Department of Education presented a paper showing that the highest-achieving students in six other countries, including Japan, Hungary and Singapore, scored significantly higher in math than their bright U.S. counterparts, who scored about the same as the Estonians. Which all suggests we may be squandering a national resource: our best young minds.

In 2004-05, the most recent academic year for which the National Opinion Research Center (NORC) has data, U.S. universities awarded 43,354 doctorates—more than ever during the 50 years NORC has gathered the data. But the rate of increase in the number of U.S. doctorates has fallen dramatically since 1970, when it hit nearly 15% for the year; for more than a decade, the number of doctorates has grown less than 3.5% a year. The staggering late-1960s growth in Ph.D.s followed a period of increased attention on gifted kids after Sputnik. Now we're coasting.

To some extent, complacency is built into the system. American schools spend more than \$8 billion a year educating the mentally retarded. Spending on the gifted isn't even tabulated in some states, but by the most generous calculation, we spend no more than \$800 million on gifted programs. But it can't make sense to spend 10 times as much to try to bring low-achieving students to mere proficiency as we do to nurture those with the greatest potential.

We take for granted that those with IQs at least three standard deviations below the mean (those who score 55 or lower on IQ tests) require "special" education. But students with IQs that are at least three standard deviations above the mean (145 or higher) often have just as much trouble interacting with average kids and learning at an average pace. Shouldn't we do something special for them as well? True, these are IQs at the extremes. Of the 62 million school-age kids in the U.S., only about 62,000 have IQs above 145. (A similar number have IQs below 55.) That's a small number, but they appear in every demographic, in every community. What to do with them? Squandered potential is always unfortunate, but presumably it is these powerful young minds that, if nourished, could one day cure leukemia or stop global warming or become the next James Joyce—or at least J.K. Rowling.

In a no-child-left-behind conception of public education, lifting everyone up to a

minimum level is more important than allowing students to excel to their limit. It has become more important for schools to identify deficiencies than to cultivate gifts. Odd though it seems for a law written and enacted during a Republican Administration, the social impulse behind No Child Left Behind is radically egalitarian. It has forced schools to deeply subsidize the education of the least gifted, and gifted programs have suffered. The year after the President signed the law in 2002, Illinois cut \$16 million from gifted education; Michigan cut funding from \$5 million to \$500,000. Federal spending declined from \$11.3 million in 2002 to \$7.6 million this year.

What's needed is a new model for gifted education, an urgent sense that prodigious intellectual talents are a threatened resource. That's the idea behind the Davidson Academy of Nevada, in Reno, which was founded by a wealthy couple, Janice and Robert Davidson, but chartered by the state legisla-

One study shows that **40%** of the top **5%** of high school grads fail to finish college

ture as a public, tuition-free school. The academy will begin its second year Aug. 27, and while it will have just 45 students, they are 45 of the nation's smartest children. They are kids from age 11 to 16 who are taking classes at least three years beyond their grade level (and in some cases much more; two of the school's prodigies have virtually exhausted the undergraduate math curriculum at the University of Nevada, Reno, whose campus hosts the academy). Among Davidson's students are a former state chess champion, a girl who was a semifinalist in the Discovery Channel Young Scientist Challenge at age 11 (the competition is open to kids as old as 14) and a boy who placed fourth in both the Nevada spelling and geography bees even though he was a 12-year-old competing against kids as old as 15. And last year the school enrolled another talented kid from a town 1,700 miles (some 2,700 km) away: Annaliese Brasil, whose mother moved with her to Reno so Annaliese could attend the school (her father was working in Longview at the time).

The academy is being watched closely in education circles. The Davidsons are well-connected philanthropists who made their

fortune in the education-software business—Jan and a friend conceived the hit Math Blaster program in the early 1980s. She and her husband sold Davidson & Associates for roughly \$1.1 billion in 1996. They have given millions of dollars to universities and tens of thousands to Republican politicians like George W. Bush and Senator John Ensign of Nevada. Gifted kids often draw only flickering interest from government officials, but Secretary of Education Margaret Spellings attended the Davidson Academy's opening.

At the academy, the battered concept of IQ—complicated in recent years by the idea of multiple intelligences, including artistic and emotional acuity—is accepted there without the encumbrances of politics. The school is a rejection of the thoroughly American notion that if most just try hard enough, we could all be talented. Many school administrators oppose ability grouping on the theory that it can perpetuate social inequalities, but at the Davidson Academy, even the 45 elite students are grouped by ability into easier and harder English, math and science classes. The school poses blunt questions about American education: Has the drive to ensure equity over excellence gone too far? If so, is the answer to segregate the brightest kids?

HOW WE SEE THEM

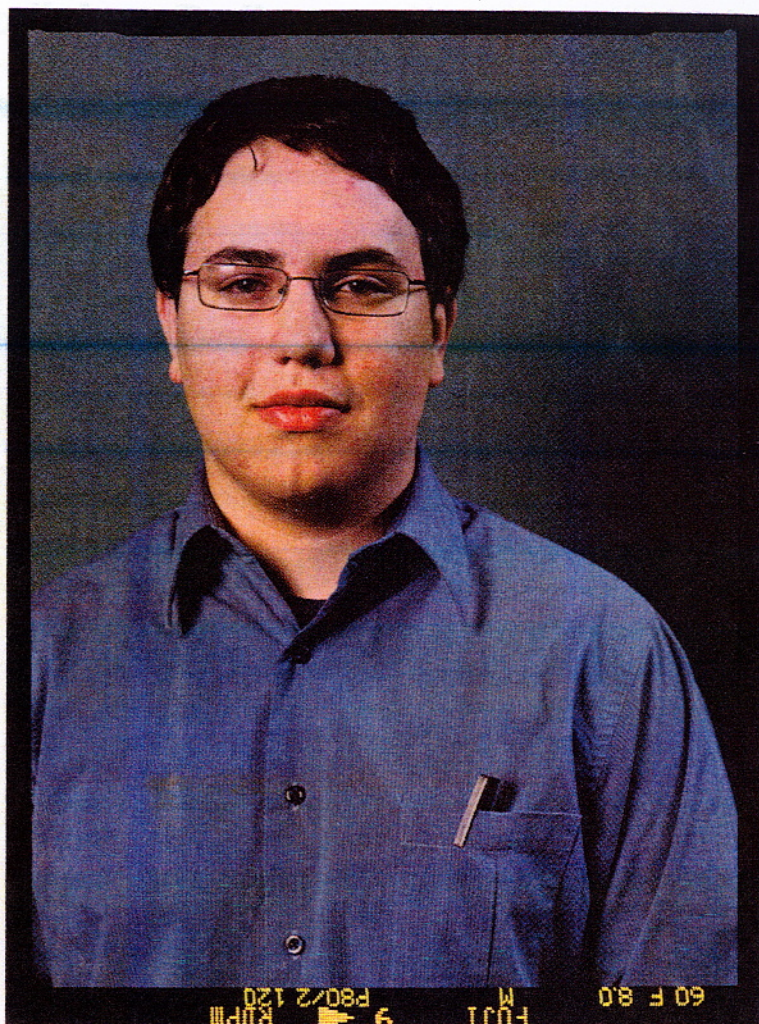
AS A CULTURE, WE FEEL DEEPLY AMBIGUOUS about genius. We venerate Einstein, but there is no more detested creature than the know-it-all. In one 1996 study from *Gifted Education Press Quarterly*, 3,514 high school students were asked whether they would rather be the best-looking, smartest or most athletic kids. A solid 54% wanted to be smartest (37% wanted to be most athletic, and 9% wanted to be best looking). But only 0.3% said the reason to be smartest was to gain popularity. We like athletic prodigies like Tiger Woods or young Academy Award winners like Anna Paquin. But the mercurial, aloof, annoying nerd has been a trope of our culture, from *Bartleby the Scrivener* to the dorky PC guy in the Apple ads. Intellectual precocity fascinates but repels.

Educators have long debated what to do with highly gifted children. As early as 1926, Columbia education professor Leta Stetter Hollingworth noted that kids who score between 125 and 155 on IQ tests have the "socially optimal" level of intelligence; those with IQs over 160 are often socially isolated because



Annalisee Brasil, 14

Interests include opera, piano, photography, drawing. **Ambitions:** May pursue a double major in vocal performance and biochemistry



James Taylor, 16

Obsessed with political philosophy; loves Hemingway. **Ambitions:** Law and history degrees; possibly a career in academia

they are so different from peers—more mini-adults than kids. Reading Hollingworth, I was reminded of Annalisee, who at 13 spoke in clear, well-modulated paragraphs, as though she were a TV commentator or college professor. For an adult, the effect is quite pleasant, but I imagine other kids find Annalisee's precision a bit strange.

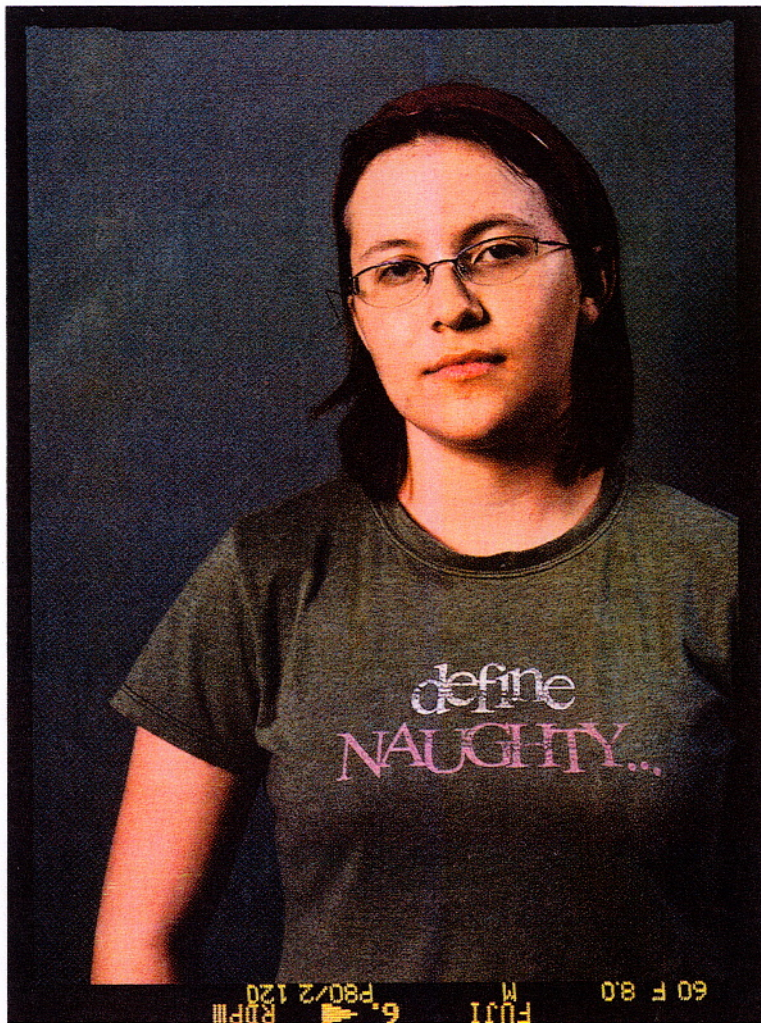
In Hollingworth's day, when we were a little less sensitive to snobbery, it wasn't as difficult for high-ability kids to skip grades. But since at least the mid-1980s, schools have often forced gifted students to stay in age-assigned grades—even though a 160-IQ kid trying to learn at the pace of average, 100-IQ kids is akin to an average girl trying to learn at the pace of a retarded girl with an IQ of 40. Advocates for gifted kids consider one of the most pernicious results to be “co-operative learning” arrangements in which high-ability students are paired with strug-

gling kids on projects. Education professor Miraca Gross of the University of New South Wales in Sydney has called the current system a “lockstep curriculum ... in what is euphemistically termed the ‘inclusion’ classroom.” The gifted students, she notes, don't feel included.

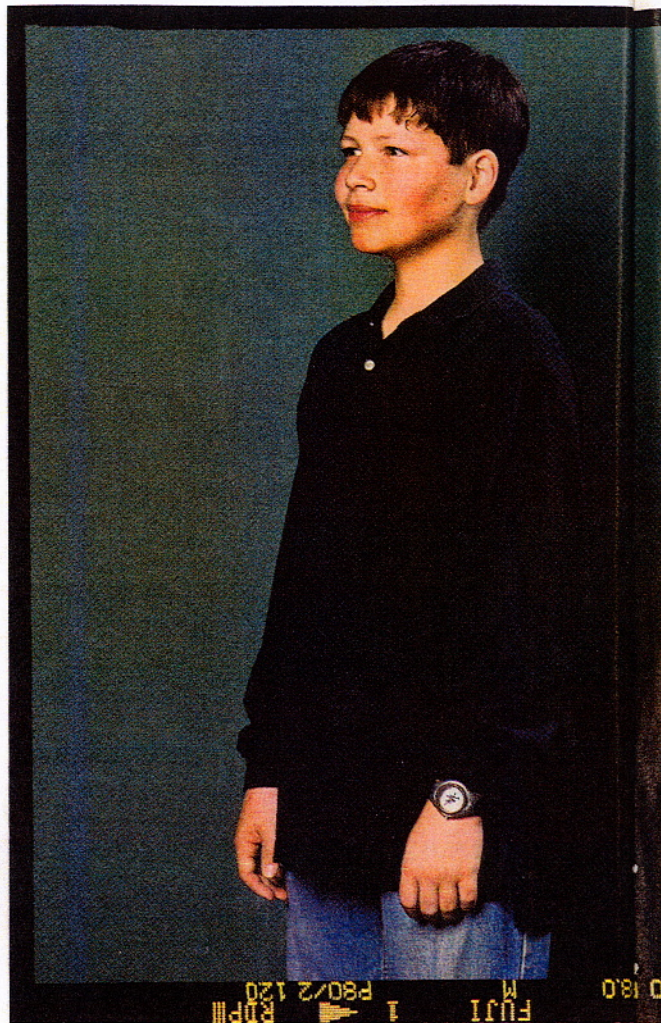
U.S. schools spend \$8 billion on the mentally retarded and just 10% of that on the gifted

We tend to assume that the highly gifted will eventually find their way—they're smart, right? The misapprehension that genius simply emerges unbidden is related to our mixed feelings about intelligence: we know Alex Rodriguez had to practice to become a great baseball player, and we don't think of special schools for gymnasts or tennis prodigies as élitist—a charge already leveled against the Davidson Academy. But giftedness on the playing field and giftedness in, say, a lab aren't so different. As Columbia education professor Abraham Tannenbaum has written, “Giftedness requires social context that enables it.” Like a muscle, raw intelligence can't build if it's not exercised.

People often wonder how to tell if their child is gifted. Truly gifted kids are almost always autodidacts. Take Max Oswald-Selis. He moved to Reno from Sydney with his


Marissa Clopton, 13

Loves fiction (including *Harry Potter*), poetry, choral music. **Ambitions:** Graduate from Davidson by 15; pursue a Ph.D. in psychology


Daniel Hickox-Young, 14

Plays trombone in Reno Youth Orchestra. Loves baseball. Former Alabama chess champ. **Ambitions:** Baseball player, math teacher

mother Gael Oswald so that he could attend Davidson. Max is 12. The first time I saw him at the academy, he was reading an article about the Supreme Court. He likes to fence. He loves Latin because "it's a very regimented language ... There's probably at least 28 different endings for any given verb, because there's first-, second- and third-person singular and plural for each tense ..." He went on like this for some time. Max didn't get along especially well with classmates in Sydney and later Kent, England, where his mother first moved him in search of an appropriate school—and where she says he was beaten on the playground.

Max is Gael's only child, so when he taught himself to read at 3—she says she hadn't even taught him the alphabet—she wasn't sure it was so unusual. Then around age 4, he read aloud from a medical book in the doctor's office, and the doctor recom-

mended intelligence testing. At 4, Max had the verbal skills of a 13-year-old. He skipped kindergarten, but he was still bored, and his mother despaired. No system is going to be able to keep up, she thought.

Gael, a math teacher, began to research giftedness and found that high-IQ kids can

Of the 62 million school-age kids in the U.S., 62,000 have IQs of 145 or higher

become isolated adults. "They end up often as depressed adults ... who don't have friends or who find it difficult to function," she says. Actually, research shows that gifted kids given appropriately challenging environments—even when that means being placed in classes of much older students—usually turn out fine. At the University of New South Wales, Gross conducted a longitudinal study of 60 Australians who scored at least 160 on IQ tests beginning in the late '80s. Today most of the 33 students who were not allowed to skip grades have jaded views of education, and at least three are dropouts. "These young people find it very difficult to sustain friendships because, having been to a large extent socially isolated at school, they have had much less practice ... in developing and maintaining social relationships," Gross has written. "A number have had

counseling. Two have been treated for severe depression." By contrast, the 17 kids who were able to skip at least three grades have mostly received Ph.D.s, and all have good friends.

At the Davidson Academy, all the kids are skipping ahead quickly—in some cases they completed more than two years of material last year. There's no sixth grade or ninth grade or any grade at the academy, just three tracks ("core," "college prep" and "college prep with research"). The curriculums are individualized and fluid—some students take college-prep English but core-level math. I sat in on the Algebra II class one day, but it wasn't so much a traditional class as a study session guided by the teacher, Darren Ripley. Kids worked from different parts of the textbook. (One 11-year-old was already halfway through; most Americans who take Algebra II do so at 15 or 16.) Occasionally Ripley would show a small group how to solve a problem on the whiteboard, but there was no lecture.

THE FOUNDERS

ULTIMATELY THE ACADEMY'S MOST important gift to its students is social, not academic. One of the main reasons Jan and Bob Davidson founded the school was to provide a nurturing social setting for the highly gifted. Through another project of theirs, the Davidson Institute for Talent Development,

each year the Davidsons assist 1,200 highly gifted students around the U.S. who need help persuading their schools to let them skip a grade or who want to meet other kids like them. Often the kids are wasting away in average classes, something that drives Bob Davidson crazy: "I mean, that's criminal to send a kid [who already reads well] to kindergarten... Somebody should go to jail for that! That is emotional torture!"

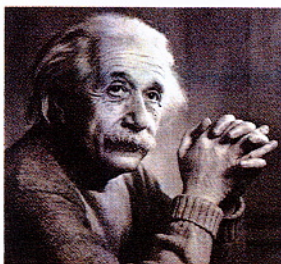
Davidson, 64, carries an air of peremptory self-assurance. He unself-consciously enjoys his place in the plutocracy. During a tour of the Lake Tahoe manse he and Jan, 63, call Glen Eagle, he showed me his red Ferrari, his private theater and the two 32-ft. totem poles just inside the entry. They are made from cedar at least 750 years old and feature carvings of the Davidsons and their three kids, who are now grown. Bob sees his work for the gifted as akin to the patronage that sustained the artists and inventors of the Renaissance. His view of giftedness is expressed through simple

Prodigious Pedigrees. How do you spot a genius? A look at half a dozen of the past century's highest achievers shows why talent rises to the top early



Marie Curie

- BORN: Warsaw; Nov. 7, 1867
- EARLY EDUCATION: Taught by parents; attended public and private schools
- YOUTHFUL FEATS: Could read by age 4 and was top of her high school class at 16
- CAREER HIGHLIGHTS: Only person to win Nobel Prizes in two science fields; first female professor at France's Sorbonne



Albert Einstein

- BORN: Ulm, Germany; March 14, 1879
- EARLY EDUCATION: Attended elementary school in Munich before dropping out at 15
- YOUTHFUL FEATS: At 16, conducted thought experiment that led to his theory of relativity
- CAREER HIGHLIGHTS: Published five major papers at age 26 that changed the world's understanding of the universe



Pablo Picasso

- BORN: Málaga, Spain; Oct. 25, 1881
- EARLY EDUCATION: Attended arts schools in Corunna and Barcelona
- YOUTHFUL FEATS: Completed his first oil painting at 8; at 15, finished a monthlong entrance exam for Madrid's Royal Academy in one day
- CAREER HIGHLIGHTS: Pioneered Cubist school of art; achieved unprecedented global fame



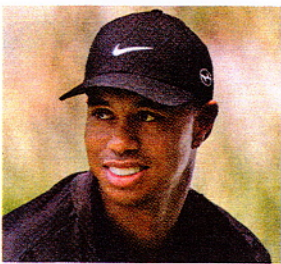
Yo-Yo Ma

- BORN: Paris; Oct. 7, 1955
- EARLY EDUCATION: Graduated from high school at 15; attended Juilliard in New York City
- YOUTHFUL FEATS: Gave public cello performances at 5; performed with Leonard Bernstein at 8
- CAREER HIGHLIGHTS: Has recorded more than 50 albums and won 15 Grammys



Bill Gates

- BORN: Seattle; Oct. 28, 1955
- EARLY EDUCATION: Attended public elementary school and Lakeside, a private prep school
- YOUTHFUL FEATS: Took college math courses and hacked a computer security system at 13
- CAREER HIGHLIGHTS: Founded Microsoft in 1975; amassed net worth of \$56 billion; became world's greatest philanthropist



Tiger Woods

- BORN: Cypress, Calif.; Dec. 30, 1975
- EARLY EDUCATION: Attended public schools until entering Stanford University in 1994
- YOUTHFUL FEATS: At age 2, putted with Bob Hope on national TV; shot a 48 for nine holes at age 3; won a record three Junior Amateurs
- CAREER HIGHLIGHTS: Turned pro at age 20; has won 79 tournaments, including 13 majors

analogies: Educators often “want people to have equal results. But that’s not likely in our world. You know, I would love to be equal to Michael Jordan in my basketball talents, but somehow I never will be.”

But such an uncomplicated view of intelligence—one that esteems IQ scores and raw mental power—has had at least one awkward consequence for the Davidson Academy: it doesn’t mirror America. Twenty-six of the 45 students are boys; only two are black. (A total of 16 are minorities.) The school is unlikely ever to represent girls and African Americans proportionately because of a reality about IQ tests: more boys score at the high end of the IQ scale (and, it should be said, more score at the low end; girls’ IQ variance is smaller). And for reasons that no one understands, African Americans’ IQ scores have tended to cluster about a standard deviation below the average—evidence for some that the tests themselves are biased.

Not everyone at the academy embraces a strict IQ-based definition of giftedness. Its curriculum director, Robert Schultz, emphasizes the importance of interpersonal skills, passion and tenacity in long-term success. Still, the Davidsons point out, correctly, that they are serving an underserved population, kids whose high IQs can make them outcasts. The academy provides a home for them and also functions to check their self-regard since they finally compete day to day with kids who are just as bright. Because everyone at Davidson performs so well, says Claire Evans, 12, “other kids can’t say, ‘Well, I’m better than you because I did this good.’ I did that good too!” (Of course, being labeled prodigies in stories like this one probably inflates them, but researchers have found that outside labeling has less effect on your self-concept than where you fit in with peers you see every day.) Going to Davidson has been an adjustment for kids used to “being on the top of the pile,” in the words of Colleen Harsin, 36, the academy’s director. Harsin

has heard Davidsonians arrive at difficult realizations: “I’m not as smart as I thought I was.” “Somebody’s better at math than I am. That’s never happened.”

A NEW ISOLATION?

NO MATTER THEIR IQS, THESE ARE STILL KIDS on the rocky promontory of adolescence. Hormones crackle; tempers rise. The boys shove; the girls gossip; a kid hits another kid during volleyball. “They are O.K. with the team sports, but this is a group that really loves the individual sports—the rock climbing was a big hit,” says Kathy Dohr, the gym teacher. You do get the sense sometimes that the Davidson students are alone together. An older boy who says he was beaten up at other schools told me, “I can’t say I have many friends here, but I’m not hated... The school does tend to be pretty much sort of cliquish.”

The academy has been good for Anna-

High-IQ kids who skip at least three grades are the happiest and most successful

lise Brasil, even though dividing into two households has been expensive and stressful for the Brasils. She has made friends at the academy and at the university, where this summer she completed a precalculus course so that she can take college calculus in the fall. She has also developed an interest in biochemistry. Socially, Annalise is finally learning to get along with others in a close-knit setting. “It’s been interesting having to deal with that and getting used to, you know, the judgments of other kids,” she told me in February. “We get into arguments a lot, because we’re all really smart people with opinions, and it doesn’t always turn

Max Oswald-Sells, 12

Enjoys military history, computer games, fencing, talking with friends on Skype. **Ambitions:** Politician, maybe; philosopher, maybe; businessman, maybe

out that great. Sometimes I take things a little too personally. You know, I’m the typical sensitive artist, unfortunately.”

The Davidson kids feel less isolated, but have the Davidsons simply created another kind of isolation for their students? When I asked curriculum director Schultz this question, he replied in an e-mail that schools can nurture traits like “civic virtue and community development.” And he warned of the alternative: “Essentially these individuals are left to their own devices [in regular schools] and really struggle to find a space for themselves... Some successfully traverse society’s pitfalls (for instance, Albert Einstein); others are less successful (for instance, Theodore Kaczynski). In either case, unless performance was noted as deficient (in Einstein’s case, he was believed to be a mute) via school personnel, schools did nothing to provide services. This continues today.”

But there is something to be said for being left to one’s own devices and learning to cope in difficult surroundings. Einstein is a good example: it’s a myth that Einstein failed math, but he hated his Munich school, the Luitpold Gymnasium. Like many other gifted kids, he chafed at authority. “The teachers at the elementary school seemed to me like drill sergeants, and the teachers at the gymnasium are like lieutenants,” he later said. Einstein was encouraged to leave the school, and he did so at 15. He didn’t need a coddling academy to do O.K. later on.

That’s not to say the best approach is a cold Dickensian bed. But Einstein’s experience does suggest a middle course between moving to Reno for an elite new school and striking out alone at age 15. Currently, gifted programs too often admit marginal, hardworking kids and then mostly assign field trips and extra essays, not truly accelerated course work pegged to a student’s abilities. Ideally, school systems should strive to keep their most talented students through a combination of grade skipping and other approaches (dual enrollment in community colleges, telescoping classwork without grade skipping) that ensure they won’t drop out or feel driven away to Nevada. The best way to treat the Annalise Brasils of the world is to let them grow up in their own communities—by allowing them to skip ahead at their own pace. We shouldn’t be so wary of those who can move a lot faster than the rest of us. ■

How Not to Raise a Genius. Is *Baby Einstein* doing your child more harm than good?



There are no shortcuts when it comes to learning, and that applies

to becoming a prodigy as well. Popular videos such as the *Baby Einstein* and *Brainy Baby* series have attracted millions of parents eager to give their babies an intellectual leg up. But a recent study shows that these products may be doing

more harm than good. Experts at the University of Washington reported early in August that for every hour each day that infants watched the kaleidoscope of changing images and music on these DVDs, they understood an average of seven fewer words than babies who did not use such products. “The assumption is that stimulation is good, so more is better,” says Dr. Dimitri Christakis, a pediatrician and

co-author of the study. “But all the research to date shows there is no such benefit.”

That’s hardly reassuring to parents who last year spent \$200 million on the *Baby Einstein* series. They might consider instead the advice of the American Academy of Pediatrics, which recommends that infants under 2 not watch anything on a screen and just interact with their parents.

—BY ALICE PARK