# Why Inner City Kids Have A Natural Learning Advantage

by Robert Sun

Whenever the U.S. talks about its long-term strategy for global competitiveness, it rarely puts inner city kids atop its list of assets. And that's a shame. After working in urban education for more than twenty years, I can tell you firsthand we're not making the most of this amazing resource.

No question, many urban children face a lot of challenges in their young lives. But from my experience, they have developed one powerful, extremely valuable characteristic that many of their suburban counterparts lack: grit. By this I mean they have courage and persistence and quickly get back on their feet after setbacks. Urban kids have grit by the boatload--and with the right tools and encouragement, grit will turn these young people into a wellspring of talent in the future.

Many experts believe that more doors open through proficiency in math and science than any other subjects currently taught in our schools. Aptitude in these areas is irreplaceable in the cultures of advanced nations. Yet we hamstring both our schools and our children when we expect teachers to instill proficiency in math through instruction alone. Practice—especially the kind of practice in which the learner is personally invested in the outcome—is essential.

The problem is that, unlike many other skills kids can develop, there is typically no immediate feedback loop for math practice. Imagine putting a child on the foul line of a basketball court, blindfolding him, and then asking him to learn to shoot foul shots. With no way to see how to improve, what would be the result? "This is dumb. What's the use? I'm bored."

These are the very same responses teachers hear when kids practice math.

Under the right conditions, however, the incredible grit that inner city kids have can be put to use to improve their accomplishments in math. When students experience self-affirmation through an immediate feedback loop—whether in athletics or in bettering math skills—it sets up a cycle of pride and determination that is unstoppable.

Once kids take ownership of their own learning process and make an internal decision to master a skill, they no longer shy away from challenges but actively seek them out. If we provide our children with a world of fascinating challenges and give them the freedom to make mistakes without judgment, they will push their skills right to the edge. They will mess up frequently, but ironically, in making all those mistakes and immediately correcting them, they will get faster and more competent at that skill.

We call this phenomenon "deep practice." Deep practice is not a function of the classroom--and it's both impractical and misguided to think prolonged practice should happen there. Somehow, a feedback environment has to be created wherein kids take active ownership of their practice requirements during their free time at home, school, library or elsewhere. If physical and psychological rewards are made part of the regimen, kids will latch on with tremendous energy.

That's where the use of technology comes in. Kids will lose themselves in a game-like environment where progressively, new skills and improvement are recognized. We've seen it work. In Philadelphia, such an online program was first introduced in more

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than 2,600 third through eighth grade classrooms. Students took it upon themselves to practice, logging over 216,000 hours in a progressive journey of learning that encompassed simple addition, decimals, fractions, exponents and even complex algebra. One year later, the School District of Philadelphia reported a 7.4% increase in fifth grade students scoring at the proficient and above level, compared with a 5.2% increase for students statewide. Improvement for eighth graders was even more impressive: an 11.1% increase in students scoring proficient and above, versus a 6.1% increase statewide.

In the district's academic region, where the program was most diligently implemented, fifth grade scores increased 15.1%—double the school district's broader increase and three times the state average. In one school, eighth grade results jumped nearly 42% in a single year.

Over the past nine years, Philadelphia students have correctly solved about 948 million math problems using the online program. The result was a district-wide increase in the percentage of students scoring proficient and above on the Pennsylvania System of School Assessment (PSSA) tests every year, for a total gain of 39.5 percentage points.

Philadelphia is not unique. In Pittsburgh, where the same deep practice program is being deployed district-wide, three schools ranked among the lowest in district surged to second, third and fourth place within two months after a targeted concentrated effort. The students' incentive was simply a trophy that travelled from classroom to classroom on a weekly basis, giving them something to work for.

A Pittsburgh math coach reported that one student who had won "player of the week" honors—a child living in adverse circumstances—was so inspired he would go to the local community center and practice for hours, without direction, simply to get continued recognition. He had the grit to go somewhere and do something he had never done before in order to reach his goal.

We live in the technological age, at a time when proficiency in math is paramount. We must develop our nation's capacity to compete in this realm. Under the right conditions, inner city children are more eager to practice math, less discouraged by failure, and respond more positively to self-affirmation, than suburban kids.

I am convinced that urban children, with their indomitable spirit and inexhaustible supply of grit, are the keys to uplifting and rebuilding our nation to its former glory. Technology can play a pivotal role in tapping the resolve of these unique kids, creating a paradigm shift in education, and ultimately closing America's achievement gap.