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guest commentary

"Learning capacity" vs. test results

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As Colorado continues to prepare its bid for federal Race to the Top education grants, federal stimulus funding for educational programs and services, we need to be sure we are asking the right questions as we prepare our bid.

To the point: as a result of breakthroughs in the field of brain function and the science of learning, the primary and sustaining question of educators when looking toward the future is not just "How much do students know?" (academic performance) but rather "How well are our students learning?" (cognitive capability). We can no longer assume what we think they should know is more important than how well they can learn. The classroom of the future will be structured and driven by "learning capacity" prior to any "classroom results."

Science and clinical programs, educators and academics have successfully demonstrated that weak cognitive skills are a primary reason why many, if not most, students struggle in school (unfortunately, the disciplines don't spend enough time talking with one another about their findings).

Cognitive skills are the mental capabilities all students need to successfully learn academic subjects. Underlying cognitive skills must f unction well for all of us to efficiently and easily read, think, prioritize, understand, plan, remember, and solve problems. They hinder and limit every child's potential.

Traditional educational processes and change efforts have not adequately addressed cognitive skill evaluation and training as a diagnostic tool at the heart of the classroom of the future — for students needing special interventions to the gifted and talented — and every kid in between.

Perhaps, just as important, weak cognitive skills limit the effectiveness of the entire educational equation in America. The academic gap, high dropout rate, need for remediation and low g lobal ranking of U.S. students need to be re-examined in light of the increasing lack of our students' core mental capacity to learn effectively.

Discoveries in brain science and innovations in educational theory have recently converged and made it possible to cultivate learning capacity and enhance academic performance by addressing weak cognitive skills and strengthening giftedness.

Just as researchers in medicine work to understand physical disorders by their causes,

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cognitive skill development allows education to move beyond an academic and correlative model to a new understanding of learning that is foundational and prior to improving academic performance.

It is now possible to measure the health (or unhealthiness) of learning in every student — and improve their "smarts" regardless of race, gender, socio-economic status, religious convictions, IQ or education.

We already screen for hearing and vision. The new science of learning has shown that we can screen and work to train the brain for improved attention, processing speed, sequential and spatial ordering, working memory, long-term memory and logic and reasoning. The classroom of the future will begin here and build on this foundation.

Rather than compare the average performance of one set of schools, students, or methods against each other, a cognitive development approach examines the state of education through the lens of an individual student's ability to think. Cognitive skill evaluation and development creates a common language and framing of all educational issues in terms of "capacity prior to performance."

Causal baselines and "learning capacity" benchmarks could then inform and enhance all the performance-based educational innovations presently being developed and submitted in the Colorado Race to the Top bid. Rather than ends, in and of themselves, the substantial innovations now being proposed become means of change serving a more student-centric foundation. Perhaps just as crucial, these significant reforms and innovations are no longer in competition with one another but working with a common and unifying goal: the capacity of a student to learn.

Our state has the leadership, a history of educational innovation, and a people committed to our kids. We are positioned to provide the leadership our state needs to truly make a significant difference. Better techniques and improved schools, more knowledge and testing, greater access to technology and tutoring, and more dollar investment without cognitive skill screenings and comprehensive brain training will continue to result in "more of the same."

"More of the same" may get us into the race (and a modest amount of money), but making all of our children smarter and more successful will make us truly winners in the long run. It begins with asking the right question.

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