

**The Achievement Gap, the New Technologies, and the Other
No Child Left Behind (NCLB)**

Joseph S. Renzulli

*The real difficulty of changing
the course of any enterprise
lies not in developing new ideas
but escaping from the old ones.*

John Maynard Keynes

The biggest challenge facing today's schools is the achievement gap that exists between advantaged students and students placed at risk. Virtually all experts agree this gap is the result of two disparities: (1) home and community conditions that have resulted in social and economic inequities and (2) the glaring differences in educational opportunities available to advantaged students but absent or severely limited to students placed at risk. Major societal changes in employment, housing, and health care will be necessary to address home and community conditions, but it is the schools that have primary responsibility for addressing the changes necessary to improve achievement between the opening and closing bells on any given school day.

Most experts also agree the billions of dollars and massive initiatives in remedial instruction have yielded minimal results. Students who have not achieved have been subjected to endless amounts of repetitious practice material. Then, when scores do not improve, we often think that the solution is to simply redouble our efforts with what has been popularly called a "drill and kill" approach to learning; an approach that has turned many of our schools into joyless places that promote mind numbing boredom, lack of genuine student engagement, absenteeism, increased dropout rates, and the other social and economic by-products of a substandard and unimaginative approach to education.

Literally billions of federal, state, and local dollars have been appropriated through compensatory education legislation such as NCLB since the 1960s, and except for a few

noteworthy (and usually newsworthy) patron saint teachers or generously funded projects, the mainstream diet for the majority of at risk youngsters has been dominated by a remedial and dumbed-down education pedagogy that has not diminished the achievement gap, and, I would argue, has actually contributed to its perpetuation. This “rice and beans diet” for improving achievement simply hasn’t worked! Evidence of this failure is plainly evident in one national report after another, and so we search for yet another quick fix solution through organizational rearrangements rather than alternative pedagogical modifications. But the solutions, by whatever new names we give them (e.g., Competency Based, Outcomes Based, Standards Based) are always reiterations of the same pedagogy—the same model for learning. The federal government’s most recent proposal to spend more than \$2 Billion dollars a year on tutoring is yet another example of offering a failed drill and practice pedagogy to fix the same pedagogy that has already failed so many of our children.

And the criteria for success always remain the same, again with new names given to the same old achievement tests of decades past (e.g., Criterion Referenced Tests, Standards Based Assessment, Value Added Assessment, Benchmark Tests). It is the singular reliance on these tests for accountability, at the exclusion of other important outcomes of schooling, that forces the pedagogy of prescription and practice and that lobotomizes our teachers in the process. Accountability for the truly educated mind in today’s knowledge-driven economy should first and foremost take account of such high-end learning skills as the ability to:

- to plan a task and consider alternatives
- to monitor one’s understanding and the need for additional information
- to notice patterns, relationships, and discrepancies in information
- to generate *reasonable* arguments, explanations, hypotheses, and ideas using appropriate vocabulary
- to draw comparisons and analogies to other problems
- to transform factual information into usable knowledge
- to rapidly and efficiently access relevant information and selectively extract meaning from information
- to extend one’s thinking beyond the information given
- to detect bias, make comparisons, draw conclusions, and predict outcomes
- to apportion time, money, and resources

- to apply knowledge and problem solving strategies to real world problems
- to work effectively with others
- to communicate effectively in different genres and formats
- to formulate meaningful questions
- to derive enjoyment from active engagement in the act of learning

Although it may be counter intuitive to the “more-practice-is-better” methodology, we need to explore bolder and more innovative alternatives that will provide all students with a more highly enriched diet that characterizes learning in the nation’s best public and private schools. This is not to say that we should abandon a strong standards-based curriculum that focuses on basic competencies, but we also need to infuse into that curriculum a series of motivationally rich experiences that promote student engagement and a genuine enjoyment in learning. Common sense and our own experience tell us that we always do a better job when we are working on something in which we are personally engaged—that we are really “into,” and that we truly enjoy. Take, for example, the demonstrated benefits in performance that result from extra-curricular activities that are based on a pedagogy that is the opposite of the pedagogy of drill and practice. How many *unengaged* students have you seen on the school newspaper staff, the chess club, the debate team, or the concert choir? This is because these students choose the area in which they will participate; they interact in a goal-oriented environment with other likeminded students to develop expertise in their chosen area using authentic problem solving and creative strategies; they produce a product, service, or performance; and their work is brought to bear on one or more intended audiences. The engagement that results from these kinds of experiences is an exemplification of an approach to learning that is very different from the behaviorist theory that guides so much of prescriptive and remedial education. Shouldn’t we be smart enough to blend the benefits of this type of learning into a system that has mainly failed our at-risk populations? And shouldn’t we also be smart enough to note the rising dissatisfaction of middle-class parents whose children are also becoming subjected to a drill oriented, test prep curriculum? One parent recently speculated that there was a sinister conspiracy being used to close the achievement gap, and the conspiracy consisted of dragging down the scores of high achieving students!

Although student engagement has been defined in many ways, we view it as the infectious enthusiasm that students display when working on something that is of personal interest and that challenges them to “stretch” for the use of materials, resources, and methods of inquiry that are qualitatively different from excessive practice, that are above their current comfort level of learning, and that have as a guiding principle *No Child Left Bored!* Research on the role of student engagement is clear and unequivocal—high engagement results in higher achievement, improved self-concept and self-efficacy, and more favorable attitudes toward school and learning. There is a strong body of research that points out the crucial difference between time-spent and time-engaged in school achievement. In the recently published international PISA study, the single criterion that distinguished between nations with the highest and lowest levels of student achievement was the degree to which students were engaged in their studies. This finding took into account demographic factors such as the socioeconomic differences among the groups studied. In a longitudinal study comparing time-spent vs. time-engaged on the achievement of at-risk students, Greenwood (1991) found that conventional instructional practices were responsible for the students’ increased risk of academic delay. And a study by Ainley (1993) reported that there were important differences in achievement outcomes favoring engaged over disengaged students of similar ability.

It will not be easy to turn around a school system whose leaders have made massive financial and policy investments in one particular brand of learning, nor will it be easy to circumvent the powerful influence of the textbook and test publishing industries that have thrived on a prescriptive curriculum and standardized test-driven approach to accountability. But a gentle and evolutionary rather than revolutionary approach to school reform is possible if we begin to take advantage of the remarkable advances that have taken place in the information technologies; advances that have brought within reach the equivalent of a dozen teaching assistants in every classroom, all day, every day.

The conditions of learning have changed dramatically for young people going to school today. Don Leu and his team of new literacies researchers at the University of Connecticut have pointed out that the Internet is this generation’s defining technology for literacy and learning; and that profound changes have already taken place in higher education, adult learning and the workplace, all situations for which we are preparing the young students who are in our classrooms today. There was a time when teachers and textbooks were the gatekeepers of

knowledge, but today virtually all of the world's knowledge is accessible to any student who can turn on a computer and log into the Internet. A crucial question, however, is will we use this information wisely? Or will we simply turn it into electronic test prep, random web surfing, and on-line courses that adhere to the same prescriptive model for learning that almost all reform initiatives have followed thus far—the model that has indeed left so many young people behind, bored, and disengaged?

With almost unlimited access to knowledge, a critical issue for educators is selecting a model for learning that promotes higher-level thinking, creativity, infectious enthusiasm, self-motivation, and the application of knowledge to genuine problem solving situations. In other words, we want to avoid using the Internet as nothing more than a gigantic electronic worksheet, spell-checker, or encyclopedia! In addition to improved academic achievement and opportunities for creative productivity and genuine student engagement, which are the major goals of an expanded learning pedagogy, there are a series of metacognitive tools that result from computer-based learning environments. Metacognitive tools are simply defined here as skills that help students organize and self-regulate their learning so that they can make the most efficient use of time, resources, and the cognitive skills that contribute to higher levels of thinking. Several researchers studying constructivist models of learning and metacognition have developed or modified traditional theories of learning to explain the role of computer environments in mediating the interactions between and among the cognitive, metacognitive, affective, and social processes that are involved in learning complex material. Promising results have emerged from these new developments in theory and research on the ways in which computer learning environments facilitate metacognitive skill development. An even more promising trend is emerging as computer use evolves from traditional e-learning (i.e., taking an on-line course of developing basic skills through computer assisted instruction) to inquiry-based software that focuses on the *application* of knowledge to investigative research projects and activities geared toward high levels of achievement and creative productivity. Students learn the basic difference between to-be-presented information that characterizes traditional instruction and just-in-time information, which is the hallmark of problem-based learning. Skills such as: problem finding and focusing; stating research questions; task understanding and planning; identifying appropriate investigative methodologies; searching, skimming, selecting, and interpreting appropriate resource material; identifying appropriate outlets, products, and audiences; and

preparing effective communication vehicles are all value added benefits when the learning theory that underlies an expanded pedagogy is combined with the vastness of resources available through the Internet.

Every teacher has had the satisfaction of seeing a child “turn on” to a topic or school experience that demonstrates the true joy and excitement of both learning and teaching. We have sometimes wondered how and why these high points in teaching occur, why they don’t occur more frequently, and why more students are not engaged in highly positive learning experiences. Teachers are also painfully aware of the boredom and lack of interest that so many of our young people express about so much of the work they do in school. Highly prescriptive curriculum guides, endless lists of standards to be covered, and relentless pressure to increase achievement test scores have often prevented us from doing the kind of teaching that results in those joyous but rare times when we have seen truly remarkable engagement in learning. Nowhere has this restrictive model for learning been more flagrantly applied than in schools that serve the nation’s most economically disadvantaged students. And because of the ways in which policies are applied across all school populations, even schools that serve the middle class are now being affected by a narrow conception about what learning is all about. All of the structural reform initiatives—expanded school day and year, block scheduling, single gender classes, school uniforms, standards-based curriculum, ever increasing mastery testing, the list goes on and on—have failed to place the focus on the one thing that makes a difference, the pedagogy that is at the heart of the learning process. It is time to explore alternatives that place an expanded pedagogy at the center of an all-out assault on the achievement gap.

With the advent of new technologies, we now have the means to close the achievement gap, but to do so will require bold and courageous leadership to modify the pedagogy that has for so long guided reform efforts. It is not easy to admit to ourselves that we have been going down the wrong road for so long, and as the above quotation points out, escaping from old ideas is more difficult than trying new ones. But imagine, just imagine, how much our schools will change and how much achievement will improve when a pedagogy of engagement ensures that no child will be left behind because we have focused on the other NCLB—**No Child Left Bored.**

References

Ainley, M. D. (1993). Styles of engagement with learning: Multidimensional assessment of their relationship with strategy use and school achievement. *Journal of Educational Psychology*, 85(3), 395–405. <https://psycnet.apa.org/doi/10.1037/0022-0663.85.3.395>

Greenwood, C. R. (1991). Longitudinal analysis of time, engagement, and achievement in at-risk versus non-risk students. *Exceptional Children*, 57(6), 521–536. <https://doi.org/10.1177/001440299105700606>

Joseph Renzulli is the former director of The National Research Center on the Gifted and Talented at the University of Connecticut. His most recent work is the development of an online enrichment program that can be found at <https://renzullilearning.com> .