

## WHY IS COGNITIVE EDUCATION BEING IGNORED?

### An Opportunity to Eliminate Educational Gaps

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#### **The Problem**

The public media today and for some time have broadcast many strong opinions about what is wrong with American education and how it should be fixed. These viewpoints sometimes contradict one another, but equally important are expressed sometimes by individuals who do not truly understand the educational process and in many cases have little professional background in education. Recent Op-Ed pieces of this nature have appeared in such prestigious places as the Wall Street Journal, the New York Times, and the Washington Post, as well as on Public Television and even CNN. (Every non-educator should spend at least one full day in a public school classroom in order to gain a full grasp of all that teachers face and must do throughout the day.)

For example, numerous articles put blame primarily on teachers for less-than-adequate student performance; others say that more and more emphasis should be placed on testing; still others say we need to teach more and more content; and still more champion so-called innovations which are in fact shallow and non-lasting. Most troubling is that many such expressed opinions are based on misunderstanding and are actually misleading the general public for whom the schools are a favorite target. For example, the Opinion page of the Wall Street Journal on November 8, 2011, page A-19, carried a piece by Biggs and Richwine, entitled “**Public School Teachers Aren't Underpaid.**” The authors state, “Our research suggests that on-average, counting salaries, benefits, and job security, teachers receive about 52% more than they could in private business.” The authors, however, provide a flawed piece of information which has been appropriately rejoined editorially in the issue of November 11, 2011; they also fail to represent the true functions and obligations of teachers and do not explain what a good teacher is, and the article does not indicate any educational reform solutions but instead demonizes teachers. Another example: In the Op-Ed section of the New York Times on November 8, 2011, entitled “Teaching with the Enemy”, the author refers to Steven Brill's book, “**Class Warfare: Inside the Fight to Fix America's Schools**”, which constitutes a condemnation of the teacher union movement; paradoxically, the President of the American Federation of Teachers held a book party for him; he has now come to the conclusion that “school reformers and teachers' unions need each other to see change”, but although that collaboration is needed, neither of them seem to have any specific solution for educational gaps.

#### **True Educational Reform**

If we are serious about educational reform in order to address the lingering achievement gap in this country, then something fundamental, not superficial or irrelevant, must be taken on. Meaningful educational reform is NOT:

- ▲ some formula or material or simple method that promises to be a quick fix
- ▲ merely curricular
- ▲ administrative tinkering with schedules or class size or grade-level organization
- ▲ accomplished by the whole-sale firing of some existing teachers
- ▲ accomplished by adoption of the Common Core Curriculum Standards by 45 states.

Real educational reform instead must encompass both a careful analysis of what lies underneath the curriculum that provides challenges for so many, and must then rely on significant professional

development for existing teachers in order to focus explicitly on students' acquiring “cognitive” strategies. Numerous Op-Ed pieces have been sent by the undersigned to several newspapers and others, making the strong case for this kind of reform, without so much as an acknowledgement.

Let us look further.

### **The Case for Cognitive Education**

What is meant by “cognitive education”? It is the explicit and systematic focus on higher-level thinking strategies which cut across all subject matter in the school curriculum. A sampling below of such strategies will make it obvious how relevant they are to every school subject:

Identifying a Problem	Categorizing	Analyzing
Making a Plan	Sequencing	Visualizing
Comparing	Organizing	Applying Logic

and much more.

How is cognitive education relevant to school subjects? Take an example of an 8<sup>th</sup> grade student who is asked to interpret a passage in a work of fiction within the English curriculum. To do interpretation well, the student must: first decode the symbols on the printed page, then analyze the elements of the story, then classify the elements of the story into categories of events or characters, then use hypothesizing to make a careful guess about what the author is saying, then verify her/his response against the original text, and then encode her/his ideas into a cogent piece of writing or provide an interpretive statement orally for fellow students and/or the teacher. All of those underlined verbs are cognitive strategies which are not learned by rote nor automatically acquired, yet are truly essential for lasting positive academic achievement and are teachable with a careful plan based on significant new professional development for teachers.

With an appropriate focus on HOW to think in these ways through classroom activities which lead students to acquire generic strategies, then the student can consciously start to apply those to the academic tasks at hand. While the Common Core Curriculum Standards provide plenty of subject-matter detail, they unfortunately mention only scantily the cognitive strategies that lie underneath all subject-matter content.

Are cognitive strategies only useful in acquiring academic content? Absolutely not—applications of thinking skills apply to students' future work life, their family life, and their social life, among others. Not long ago, a manager of a business was asked what he would value most in high-school graduates who are applying for a position within his company; his reply was, “We can teach the new hire all of the content needed for the job, but please send me graduates who can THINK and SOLVE PROBLEMS.” A few reform proposals in recent months have indeed identified a missing element in American education—the ability to think.

### **A Program Example**

If a school leader becomes serious about infusing cognitive education in her/his school, what should she or he do? One significant approach is to adopt a specifically designed cognitive education program with its student materials and professional development for teachers; a few such programs can be found..

An example of such a program was developed originally in Israel. This program encompasses 25 major thinking-skill areas across a multi-year intervention period, including those in the above list. Significant multi-day professional development is mandated for all teachers who are going to use the program, followed by consistent teacher-coaching. An important part of the methodology for this program is regular student reflection on one's own thought processes (called "metacognition") so that the student will eventually become independent because she/he is now developing a working awareness of strategies to be used in future problem-solving situations. And the requirement for professional development takes a different tack from the negative views of teachers-- instead of criticizing or firing teachers, we should enable current teachers to become better teachers.

More than 1000 research studies with this program in numerous countries around the world (e.g., USA, Chile, Israel, Canada, Spain, Ethiopia, South Africa, Brazil, to name only some) have documented important benefits of the program as follows:

**A. For Students: Significant improvement in--**

- reading comprehension
- math computation and concepts
- problem-solving strategies applied within subject matter
- thinking habits such as defining a problem, persisting to find a solution, using multiple strategies to solve problems, etc.
- gaining control of and ability to deal with strong emotions
- reduced impulsivity in problem-solving situations

**B. For teachers: Documented improvement in--**

- greater variety of methodology applied to subject-matter teaching
- focus on the thinking pre-requisites which apply to all subject matter
- conducting of productive interactive thinking dialoging with students
- enthusiasm for teaching.
- more frequent use of higher-level questioning in the classroom
- use of reflective thinking with students (metacognition)

**C. For parents: Documented improvement in--**

- giving children more responsibility for their own problem-solving
- more frequent use of "thinking" terms in conversation with children
- understanding of their children's thought processes
- understanding of any learning problems faced by their children.

While ALL students benefit from such a specific focus on cognitive strategies, the program has also been successful with special populations—learning-disabled, ADHD, Down Syndrome, deaf, blind, etc.

**A School-Wide Option**

Instead of incorporating these thinking strategies into a series of individual classrooms in a school through their teachers, another alternative is to decide that an entire school will become a Thinking School. A detailed model proposal on how to develop a Thinking School has been prepared, and is available as **The Thinking Academy**. School-wide commitments to infuse this program throughout the school have already occurred, but only on a small scale. Now a world-wide network of Thinking Schools is thriving, centered in the United Kingdom but involving several countries other than the USA, with an international conference on the topic being held in South Africa in February of 2011;

once again, it appears that the USA may be behind the curve.

### **Where to from here?**

School leaders should now put aside the superficial or quick-fix solutions to educational challenges, and focus on the underpinnings of the curriculum; once one does that, it becomes clear that an emphasis on cognitive education is most appropriate as a parallel process throughout the school day. Systematic cognitive education holds the promise of making significant progress in eliminating educational achievement gaps in schools; we are particularly disturbed by the high percentage of entering students in American universities and colleges who must take “remedial” classes before they are considered ready for college-level work; this situation can be significantly changed if we become serious about an explicit focus on cognitive education together with the regular curriculum. Empirical studies have shown consistently that intelligence can be expanded and improved through systematic cognitive interventions. The fact that programs such as that described above have had a measurable impact on such a wide variety of populations, means that we **MUST** regard cognitive education as a kind of new “basic”, without which other so-called innovations will continue to encounter frustration. In addition, a November 2011 national conference on Learning and the Brain in Boston (MA) engaged 1600 teachers in three days of presentations by leading scholars on the vital importance of critical and creative thinking.

Let us proceed now to return to one of the features that made the United States a great nation in the past—producing a generation of young people who are active thinkers. Thus, we **CAN** close the achievement gap in our schools.

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