

# The Star-Ledger

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TODAY'S FORECAST: Nice, with plenty of sunshine.

at 7 A.M.  
54°

at 2 P.M.  
70°

at 7 P.M.  
69°

DETAILS,  
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CGM

THE NEWSPAPER FOR NEW JERSEY

## Schools must build a culture of creativity

BY GEORGE P. KORFIATIS AND VIRGINIA RUESTERHOLZ

The following sentence appears in the 2007 Report of the New Commission on the Skills of the American Workforce, titled "Tough Choices or Tough Times":

"If someone can figure out the algorithm for a routine job, chances are that it is economical to automate it."

It is a simple statement that carries enormous implications for the future of America's economy and way of life.

As the authors of the report contend, for our nation to maintain global technology leadership and thereby support good jobs and a high standard of living, great technology is not the only requirement. Leadership depends, rather, on a "deep vein of creativity that is constantly renewing itself, and on a myriad of people who can imagine how people can use things that have never been imagined before . . . that will capture people's imagination and become indispensable to millions."

In other words, it requires a culture of creative daring united with technological know-how of a high order.

To support such a culture, a nation's teaching infrastructure must be geared to produce innovators and inventors. It must educate people who can develop high-level solutions to problems, who will create new technologies that will advance the frontiers of the economy and opportunity.

In line with recent commentators such as Thomas Friedman, Daniel Pink and Norman Augustine, the "Tough Choices" authors view the American K-12 and university infrastructure as our national Achilles' heel. When it comes to equipping our young with relevant skills and with ways of

elementary grades, where students are encouraged to express themselves, than in high school or college, where schooling is often regimented with "stovepiped" disciplines that do not allow for interdisciplinary, team-based projects that reflect real-world opportunities and problems.

In a competitive global environment, we are called to distinguish our organizations and ourselves by creating value through the introduction of new products, new services and new solutions. The inventors of MySpace saw a need that hadn't yet been identified and, in the process, revolutionized the way tens of millions of people socialize. Not incidentally, they are now worth a couple of billion dollars — which they will doubtless reinvest, continuing the cycle of economic growth. A similar pattern can be pointed to with YouTube and the company that acquired it, Google.

These enterprises manifest new ways to create wealth and jobs in the

global marketplace — their most important asset being the intellectual capital contributed by their founders.

We must reinvent our educational approach so we ensure not only that our students benefit from internationally competitive and rigorous coursework in science and mathematics but that we instill in them the proclivity to look for problems and opportunities, to use their ingenuity to create solutions and to consider the interrelated systems and impacts of any innovation.

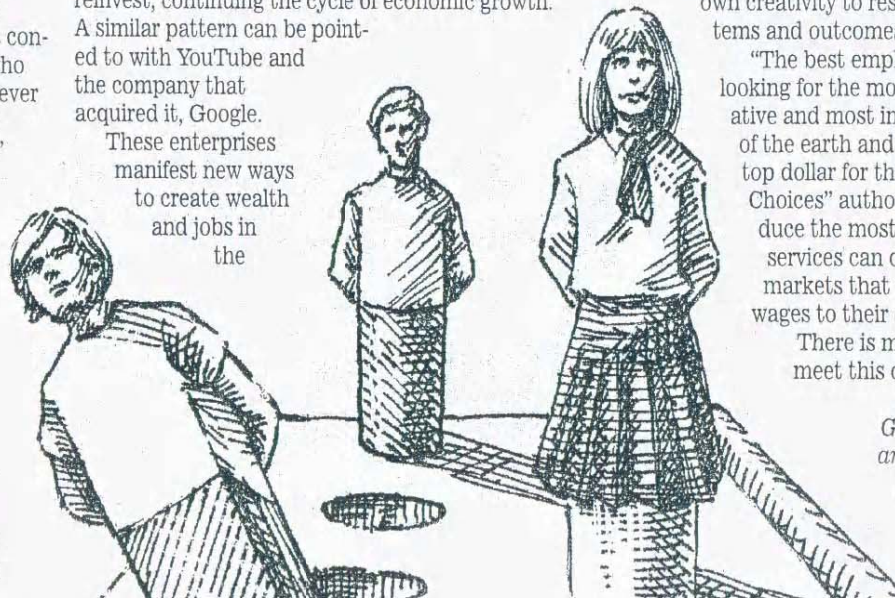
Starting now, educators, industry leaders and elected officials must come together to form communities of creative enterprise to cultivate these characteristics in our students from the earliest grades. This imperative calls upon us to do things differently, to apply our own creativity to reshaping our education systems and outcomes.

"The best employers the world over will be looking for the most competent, the most creative and most innovative people on the face of the earth and will be willing to pay them top dollar for their services," say the "Tough Choices" authors. "Those countries that produce the most important new products and services can capture a premium in world markets that will enable them to pay high wages to their citizens."

There is much riding on our ability to meet this challenge.

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high numbers of "routine algorithm" citizens.

In a world where, to quote Vivek Paul of India's Wipro, technology has advanced from "globalizing industries to globalizing individuals," this situation cannot be viewed as acceptable.

As engineers by training, we strongly endorse this definition of our profession: "Engineers use imagination, judgment and reasoning to apply science, technology, mathematics and practical experience. The result is the design, production and operation of useful objects or processes."

Designing and producing are inherently creative enterprises, and conceptualizing is the better part of engineering, especially for the future.

Currently in classrooms throughout the country, creativity is more likely to find expression in a creative writing class than in a science or mathematics class, or in

