

Academic achievement is important, but modern workplaces—and life in general—require much more. In a world where innovation is what separates most organizations from their competitors, can continuous improvement programs in public school classrooms make a difference?

Will Students Make the Grade in an Education for the World Ahead?

The Erroneous Dilemma Between Testing and Creativity

Maurice Ghysels

This article focuses on the use of continuous improvement in public school classrooms to advance students' creativity and engage students and teachers in 21st century skills—a requisite to survival in a competitive global economy. Students must experience creativity beyond critical academic subjects with more time and resources for music and arts education in U.S. public schools.

Reason to Celebrate

A 10-point gain on California's Academic Performance Index (API) in math and language arts tests is considered a decent increase. Students in the Mountain View Whisman School District

(MVWSD) achieved a 21 percent increase in this year's API.¹ The greatest excitement was not so much about the gains in numbers, but in the human side of our business, our students. In a diverse district with almost half of our students living in households of poverty and close to a majority learning to speak English, we are grateful for each student's success story, celebrating their success and giving credit to teachers, staff, and parents.

These measures of student achievement continue to create a sense of excitement and an urgency to continuously improve, particularly for minority students who live in poverty. A small, yet thrilling example of student success

is that more of our third grade Latino students know the commutative property of multiplication, essential to shaping their quantitative thinking skills, preparing them for algebra, college, and far beyond. Student achievement like this leads to greater productivity and self-confidence.

Worried and Restless

Before we get swept up in self-congratulation, however, we need to check in with some global realities and ask: In all this testing, are students learning how to work as a team, to use creativity and innovation? Will they have the preparation and motivation to work in direct competition with workers in every corner of the globe? Or, as evidence shows, will they just “slide” through school because they implicitly know all they have to do is to make the grade and pass the course?² Sadly, many students will graduate from high school facing the consequences of lower-paying jobs because of our outdated, factory-like education system that relies on testing, testing, and more testing.

Our public education system and schools may be out of sync in how they prepare students for the world ahead. According to the National Center on Education and the Economy’s (NCEE) reports on required skills of the American work force: “The best employers the world over will be looking for the most competent, most creative, and most innovative people on the face of the earth and will be willing to pay them top dollar for their services.” *TIME* magazine sums it up well, “This is a story about the big public conversation the nation is not having about education...whether an entire generation of kids will fail to make the grade in the global economy because they can’t think their way through abstract problems, work in teams, distinguish good information from bad, or speak a language other than English.”³

Given these global marketplace realities, it may come as a surprise that student assessments remain worthwhile. We must have a balance: We have to continue to assess students against academic standards and provide opportunities for students’ creativity to flourish. This call for a balance must represent an “and,” not an “or.” We must stay the course of the accountability movement and engage in processes such as continuous improvement to address academic subjects.

Accountability, Balance, and Time

It’s vital to keep measuring student achievement. Assessing students is a highly effective way

for teachers to gauge student mastery of academic standards and to help students better understand what they do and don’t know. Teachers have always tested and let’s candidly admit it—we should hold everyone accountable to suitable measures. In fact, many believe the accountability movement in U.S. schools is here to stay in spite of a rough start. We have a considerable distance to define the measures of student achievement; we must continue to work on how we measure student success.

Like many nonprofit service industry and government entities that measure performance, public education is struggling to claim the right measures to describe student learning and achievement. In spite of its flawed beginnings, the 2002 “No Child Left Behind” (NCLB) federal law not only provides measures, it also gives us a reason and powerful comparative data to talk about student achievement, particularly for African American and Latino students and students of poverty. It also gives a start on what to work toward and on what not to waste time. We cannot waste efforts in public education on new acronyms and glitzy programs. Getting to “great” is a disciplined, cumulative process that requires disciplined people, disciplined thinking, and disciplined action. Facing what the celebrated corporate excellence guru Jim Collins calls the “brutal facts,” this discipline requires an honest assessment of performance and a deep desire to learn from mistakes.⁴ Seeking the truth is what assessing student performance is all about—the truth about how well we are performing. If we start with the truth, we can share measures that will help us work as a team toward improvement without placing blame.

Yet, testing deserves constructive criticism. Just hear the obvious cries from those who oppose testing, including:

- Teachers teach to tests and forget about teaching to standards (the real measure of achievement).
- Students are tested too much and get turned off to “the game.”
- Students learn how to test and not how to learn.
- Test results are over emphasized and do not take into account the “whole child.”
- Results are recognized by negative, not positive rewards from the government.

As a candid 16-year-old high school student expressed, “If we are tested all the time, we memorize too much and really don’t learn much.” When

testing becomes the means and the end, it can threaten teacher and student creativity, and we're not alone in these criticisms. Education is not the only institution where we see the negative results of valuing one measure of success. Corporations and for-profit companies that focus too much on quarterly profit fail more frequently and emphasize blame over correcting processes. Moreover, when creativity takes a back seat to bottom-line measures, short-run results, and shareholders' profit-pressure, quality and customer satisfaction suffer.

How can we continue to hold educators accountable for results without turning our public educational classrooms into testing factories that fail to prepare students for the world ahead?

The Current State

The NCEE points to a spirited future that will reward a creative work force to compete in a fiercely competitive global society (conversely, it will be difficult for those students who are not creative). Skills such as research, development, design, marketing and sales, and global supply-chain management will require a framework of competencies in core subjects, as well as life, career, and media and technology skills. They also will necessitate strong learning and innovation skills, involving creativity and innovation, critical thinking and problem solving, and communication.

To prepare our students for this world teachers must move beyond the role of facilitators and become collaborators in learning, seeking new knowledge alongside students and modeling positive habits of work and mind, moving our schools from teaching systems to learning organizations.⁵

Can we find such a method in our classrooms to teach core academic subjects and achieve student proficiency on tests? Is there such a balance between academic measurement and creativity? How can we develop an operational "playbook" for the 21st century and embed these in skills in the classroom?

21st Century Skills and the Way of Continuous Improvement

Teachers in the MVWSD devote copious amounts of time to core academic subjects and simultaneously use eight elements of continuous improvement to help students engage in 21st century skills.⁶ Acting more like enthusiastic team members in talented companies such as Pixar,⁷ teachers are collaborating authentically with students to accomplish the following:

- Give students more control in the ideas in lesson development, "a voice" in their learning. For example, students provide feedback to their teacher's lessons and run class meetings analogous to creative project management teams in which they share ideas on how to learn better and faster. They conduct "plus-delta" exercises or what Pixar calls "post-mortems" to discover as a team what went right and what went wrong with a lesson, their learning behavior, or the pace or depth of the subject matter. They even provide the teacher with feedback on what worked well and what could have been better. In this culture of respect, they develop character and the definitions of a "quality student" and "quality teacher" and publicly display signed agreements on their classroom walls.
- Create a peer culture in which classroom goals are known and transparent and related to the essential standards directly linked and aligned to the school site plan, district goals, and the state's standards (NCLB driven). Students openly chart their progress in individual student data folders and graph their cumulative results in classroom data centers or "dashboards." These are analyzed during class meetings in which students talk about defining the support for each of their classmates to become successful in meeting individual and class goals. When a visitor walks into a classroom in MVWSD and asks the students what is their classroom mission? Well, they will be surprised to hear the students shout out their mission in crisp unison!
- Encourage communication by addressing difficulties in solving class problems. For example, ineffective and inefficient use of instructional time is analyzed by students and broken agreements to ground rules are addressed to manage the class in a trustworthy and respectful manner. This communication and collaboration produces more student buy-in and implicit motivation to achieve academic results. Open communication also assures that core values and strong character behaviors are transparent, positive, and productive. Students even conduct parent conferences by describing their goals, assessment data, and accomplishments to their parents and teacher!

Does this sound like testing? No. Are assessments and measures critical in this continuous improvement arena? Yes. Is it creative? We believe it is, and we encourage you to visit our classrooms.

Using elements of continuous improvement in the classroom—from setting goals together based on clear academic measures to holding class meetings using individual and classroom data (dashboards), students are learning to think creatively through problem solving and decision making. They work together to examine feedback in which teachers are moving beyond the role of facilitators and collaborating with students. Teachers model positive habits of work that look more like a Silicon Valley high-tech and innovative project management team instead of a top-down traditional classroom. They even view the student as a customer and enthusiastically encourage their customers—the students—to have a voice in the learning process. Students are held accountable through assessments that are analyzed for ongoing improvement.

In a continuous improvement classroom, there is tremendous evidence of 21st century skills. Students create ground rules that determine how they effectively communicate, work, and problem solve together. Teachers and students engage in a variety of quality tools that promote individual and group processing and presenting skills via data analysis, graphing results, root cause analysis, Pareto optimization, infinity diagramming, and force field analysis. Students and teachers are also embracing an overarching quality process improvement tool: plan-do-study-act (PDSA) cycles in which students work in teams to use data to drive goals and examine results. This tool is used in classrooms, schools, and throughout the district to keep a keen focus and resource alignment on academic progress.

The continuous improvement way is not only achieving academic results, it's also motivating students and teachers and preparing them for the world ahead. In MVWSD and beyond, we can continue a culture of accountability by engaging students to learn academics through the ways of continuous improvement. Through creative imagination we can embrace the measures of testing and prepare our students for the 21st century. Nevertheless, creativity is an elusive and somewhat daunting subject; thus, we are not suggesting that continuous improvement



is the only solution to generating academic results and creativity; we are simply reporting that the continuous improvement classroom is a powerful way to engage students in 21st century skills that demand creativity, but it's not enough.

Creativity? More Art and Music

There is much more to discuss about creativity, particularly through the lens of multiple intelligences,⁸ as well as recent findings about the human brain and creativity.⁹ Beyond the creative means of teaching academics through continuous improvement to prepare students for the future, a practical, straightforward solution may simply involve more time and energy for students to engage in art and music. Both arguably generate creativity. These traditional educational means provide experiences for varied student learning styles and multiple intelligences. How art and music are taught, however, requires a rigorous and perhaps some-

what controversial conversation among the experts. The discussion is encouraged by educators worldwide, focusing on a variety of cultures and technologies.

Sir Ken Robinson, an expert in the concept of creativity, notes that art and music take a much lower priority to academics, as he laments about the state of our education systems throughout the world.¹⁰ "Every education system on earth has the same hierarchy of subjects. Every one. No matter where you go. You think it would be otherwise, but it isn't. At the top are mathematics and languages. Then the humanities, and at the bottom are the arts. Everywhere on earth, and in pretty much every system, too. There's a

hierarchy in the arts. Art and music are normally given a higher status than drama and dance. There isn't an education system on the planet that teaches dance every day to children the way we teach them mathematics. Why? Why not?! I think dance is very important and so is math."

Although it seems almost impossible to teach music and art in the rush to meet NCLB requirements, these subjects are absolutely vital in helping children not only to develop creativity, but also to stay engaged in their education. Finally, the highlight

on Pixar was not selected as a creative company by accident; after all, they do create art!

The “Should Be” State

Can we have the “luxury” of innovation and creativity when we are spending so much time on core academic subjects? We get into trouble when we think in extremes. There is no substitute for academic excellence, and while there are many arguments and viewpoints on creativity and innovation, we suggest a practical means for these illusive and perhaps ethereal subjects: Educators can start by emphasizing more art and music, making them a higher priority in the scheme of creativity. In regard to more of the arts—all the arts—this will require more time and money, involving a longer school day and school year.

This brings us back to solving the dilemma between testing and creativity, which is not new. In a lesson from history, it is worthwhile to note that the artistic “Impressionists” were trained and disciplined in the classics before they *earned* the freedom to move from the stranglehold of the church and to start painting nature with feeling and glee. A lesson learned and worth repeating: These artists were competent in the artistic subjects of their day, and they seized the moment to create astonishing creative works. They obtained permission to advance. Madeline Hunter, the famous 20th century pedagogic luminary summed it up best when she parlayed the basic lesson plan into creativity. “I believe the future of education is bright! We are beginning to unlock the mystery of the human brain and how it processes and learns. We, now, can enable teachers to use that knowledge to accelerate that learning process. No longer is teaching a ‘laying on of hands.’ It has become a profession that combines science with art to create a better and a more productive world for humankind.”

In the end, there isn’t much of a dilemma between testing and creativity. We must continue to promote the use of continuous improvement in the classroom to advance students’ creativity and engage students and teachers in 21st century skills, a requisite for survival in a competitive global economy. Equally important, students must have access to creativity beyond critical academic subjects. Without a doubt, we must devote time and resources for music and arts education in U.S. public schools.

The real dilemma rests in the fact that this nation must make children its top priority over other

expenditure lines in our state and federal government budgets. We must reawaken and rediscover again and again that children are our future. To this end we must embrace continuous improvement in our classrooms and invest more in creative means such as music and art. Finally, providing an education for the world ahead means that our children come first and foremost in our nation’s innovation and results.

References

- ¹MVWSD is located in the epicenter of Silicon Valley—Mountain View, CA, where several high-tech companies are headquartered or have a strong presence: Microsoft, Google, Intuit, and Synopsys. For more information, visit www.mvwsd.org. For more information on the Academic Performance Index, visit www.cde.ca.gov/ta/ac/ar/.
- ²The National Center on Education and the Economy, *Tough Times or Tough Choices*, The Report of the New Commission on the Skills of the American Workforce, 2007.
- ³Claudia Wallis and Sonia Steptoe, “How to Build a Student for the 21st Century,” *TIME*, December 18, 2006.
- ⁴Jim Collins, *Good to Great*, HarperBusiness, 2001.
- ⁵Karen Cater, *Apple’s Educational Leadership Summit*, San Francisco, CA, April 11, 2008.
- ⁶Mountain View Whisman School District Web site: www.mvwsd.org/ci.
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- ⁸Howard Gardner, *Changing Minds*, Harvard Business Press, 2004.
- ⁹Daniel Pink, *A Whole New Mind*, Riverhead Books, 2007.
- ¹⁰Sir Ken Robinson, “Do Schools Kill Creativity?” TED Conference, Monterey, CA, 2006.



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